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Part 4:
IEC reference collection of standard data element types and component classes

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION
_____

STANDARD DATA ELEMENT TYPES WITH ASSOCIATED CLASSIFICATION SCHEME FOR ELECTRIC COMPONENTS –

Part 4: IEC reference collection of standard data element types and component classes

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.

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International Standard IEC 61360-4 has been prepared by subcommittee 3D: Data sets for libraries of IEC technical committee 3: Information structures, documentation and graphical symbols.

This second edition cancels and replaces the first edition published in 1997. This second edition contains all data element type and class definitions from the first edition with an updated classification scheme and new definitions in the area of:

a) the geometrical characteristics of the shapes of components, including figures and drawings;

b) the characteristics for semiconductor die;

c) data element types originating from the JEITA dictionary in Japan.

It establishes a classification and coding system of shapes for package outlines of electric and electromechanical components according to key geometrical characteristics.

The object of this addition to the standard is to define the information required on the shapes of components :

- for the design of component lands, footprints and piercing drawings;
- for determining the space occupied;
- for deriving dimensions and tolerances needed for automatic handling by inserters and onserters;
- to provide a classification scheme for the purposes of retrieval, selection and comparison of component shapes;
- to establish a coding system for identification of component package outlines;
- to provide a set of reference drawings for defining shape, size and relative position of the component body, mounting features, terminals and adjusters;
- to provide a set of data element type definitions for geometrical parameters in computer-sensible form.

This second edition extends the classification scheme and DET definitions with unpackaged and minimally packaged semiconductor die, with or without connection structures. It is a data specification which defines the requirements for

- product identity;
- product data;
- die mechanical information;
- test, quality and reliability information;
- handling, storage and mounting information;
- thermal data and electrical simulation data.

This second edition extends the classification and DET definitions with new entries originating from the JEITA dictionary, Japan.

The text of this standard is based on the following documents:

FDIS	Report on voting
3D/134/FDIS	3D/136/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

IEC 61360 consists of the following parts, under the general title *Standard data element types with associated classification scheme for electric components*:

- Part 1: Definitions – Principles and methods
- Part 2: EXPRESS Dictionary schema
- Part 3: Maintenance and validation procedures
- Part 4: IEC reference collection of standard data element types and component classes
- Part 5   Extensions to the EXPRESS dictionary schema

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

INTRODUCTION

The contents of this docment is in line with the current contents of the IEC online 61360 Component Data Dictionary.

a) The complete classification scheme is given in Annex A.

b) The new/amended data element types with their identifier, as listed below, are given in Annex C.

AAD001-001	AAD089-001	AAE000-001	AAG026-001	AAG074-001
AAD002-001	AAD090-001	AAE002-006	AAG027-001	AAG075-001
AAD003-001	AAD091-001	AAE003-006	AAG028-001	AAG076-001
AAD004-001	AAD093-001	AAE004-007	AAG029-001	AAG077-001
AAD005-001	AAD095-001	AAE060-006	AAG030-001	AAG078-001
AAD006-001	AAD115-001	AAE349-006	AAG031-001	AAG079-001
AAD007-001	AAD116-001	AAE351-006	AAG032-001	AAG080-001
AAD008-001	AAD117-001	AAE545-006	AAG033-001	AAG081-001
AAD009-001	AAD118-001	AAE618-005	AAG034-001	AAG082-001
AAD010-001	AAD119-001	AAE635-001	AAG035-001	AAG083-001
AAD011-001	AAD120-001	AAE878-005	AAG036-001	AAG084-001
AAD012-001	AAD121-001		AAG037-001	AAG085-001
AAD013-001	AAD122-001	AAF101-006	AAG038-001	AAG086-001
AAD014-001	AAD123-001	AAF311-007	AAG039-001	AAG087-001
AAD015-001	AAD124-001	AAF390-002	AAG040-001	AAG088-001
AAD016-001	AAD125-001	AAF464-001	AAG041-001	AAG089-001
AAD017-001	AAD126-001	AAF465-001	AAG042-001	AAG090-001
AAD018-001	AAD127-001	AAF466-001	AAG043-001	AAG091-001
AAD019-001	AAD129-001	AAF467-001	AAG044-001	AAG092-001
AAD020-001	AAD130-001	AAF468-001	AAG045-001	AAG093-002
AAD021-001	AAD131-001	AAF469-001	AAG046-001	AAG094-002
AAD022-001	AAD132-001		AAG047-001	AAG095-001
AAD023-001	AAD133-001	AAG000-001	AAG048-001	AAG096-001
AAD024-001	AAD134-001	AAG001-001	AAG049-001	AAG097-001
AAD025-001	AAD137-001	AAG002-001	AAG050-001	AAG098-001
AAD026-001	AAD140-001	AAG003-001	AAG051-001	AAG099-001
AAD027-001	AAD141-001	AAG004-001	AAG052-001	AAG100-001
AAD028-001	AAD142-001	AAG005-001	AAG053-001	AAG101-001
AAD029-001	AAD143-001	AAG006-001	AAG054-001	AAG102-001
AAD030-001	AAD144-001	AAG007-001	AAG055-001	AAG103-001
AAD031-001	AAD145-001	AAG008-001	AAG056-001	AAG104-001
AAD032-001	AAD146-001	AAG009-001	AAG057-001	AAG105-001
AAD033-001	AAD147-001	AAG010-001	AAG058-001	AAG107-001
AAD049-001	AAD148-001	AAG011-001	AAG059-001	AAG108-001
AAD054-001	AAD149-001	AAG012-001	AAG060-001	AAG109-001
AAD055-001	AAD150-001	AAG013-001	AAG061-001	AAG110-001
AAD056-001	AAD151-001	AAG014-001	AAG062-001	AAG111-001
AAD060-001	AAD153-001	AAG015-001	AAG063-001	AAG112-001
AAD070-001	AAD154-001	AAG016-001	AAG064-001	AAG113-001
AAD071-001	AAD155-001	AAG017-001	AAG065-001	AAG114-001
AAD072-001	AAD156-001	AAG018-001	AAG066-001	AAG115-001
AAD078-001	AAD157-001	AAG019-001	AAG067-001	AAG116-001
AAD081-001	AAD158-001	AAG020-001	AAG068-001	AAG117-001
AAD082-001	AAD159-001	AAG021-001	AAG069-001	AAG118-001
AAD085-001	AAD160-001	AAG022-001	AAG070-001	AAG119-001
AAD086-001	AAD161-001	AAG023-001	AAG071-001	AAG120-001
AAD087-001	AAD162-001	AAG024-001	AAG072-001	AAG121-001
AAD088-001		AAG025-001	AAG073-001	AAG122-001

AAG123-001	AAJ020-001	AAJ046-001	AAJ073-001	AAJ100-001
AAG124-001	AAJ021-001	AAJ047-001	AAJ074-001	AAJ101-001
AAG125-001	AAJ022-001	AAJ048-001	AAJ075-001	AAJ102-001
AAG129-001	AAJ023-001	AAJ049-001	AAJ076-001	AAJ103-001
AAG130-001	AAJ024-001	AAJ051-001	AAJ077-001	AAJ104-001
AAG131-002	AAJ025-001	AAJ052-001	AAJ078-001	AAJ105-001
AAG133-002	AAJ026-001	AAJ053-001	AAJ079-001	AAJ106-001
AAH005-001	AAJ027-001	AAJ054-001	AAJ080-001	AAJ107-001
	AAJ028-001	AAJ055-001	AAJ081-001	AAJ108-001
AAJ001-001	AAJ029-001	AAJ056-001	AAJ082-001	AAJ109-001
AAJ002-001	AAJ030-001	AAJ057-001	AAJ083-001	AAJ110-001
AAJ003-001	AAJ031-001	AAJ058-001	AAJ084-001	AAJ111-001
AAJ004-001	AAJ032-001	AAJ059-001	AAJ085-001	AAJ112-001
AAJ006-002	AAJ033-001	AAJ060-001	AAJ086-001	AAJ113-001
AAJ007-001	AAJ034-001	AAJ061-001	AAJ087-001	AAJ114-001
AAJ008-001	AAJ035-001	AAJ062-001	AAJ088-001	AAJ115-001
AAJ009-001	AAJ036-001	AAJ063-001	AAJ089-001	AAJ116-001
AAJ011-001	AAJ037-001	AAJ064-001	AAJ090-001	AAJ117-001
AAJ012-002	AAJ038-001	AAJ065-001	AAJ091-001	AAJ118-001
AAJ013-001	AAJ039-001	AAJ066-001	AAJ092-001	AAJ119-001
AAJ014-001	AAJ040-001	AAJ067-001	AAJ093-001	AAJ120-001
AAJ015-001	AAJ041-001	AAJ068-001	AAJ094-001	AAJ121-001
AAJ016-001	AAJ042-001	AAJ069-001	AAJ095-001	AAJ122-001
AAJ017-001	AAJ043-001	AAJ070-001	AAJ096-001	AAJ123-001
AAJ018-001	AAJ044-001	AAJ071-001	AAJ098-001	AAJ124-001
AAJ019-001	AAJ045-001	AAJ072-001	AAJ099-001	

c) The new/amended classes with their identifier, as listed below, are given in Annex B.

AAA000-001	AAA307-001	AAA349-001	AAA384-001	AAA420-001
AAA002-003	AAA308-001	AAA350-001	AAA385-001	AAA421-001
AAA021-003	AAA309-001	AAA351-001	AAA386-001	AAA422-001
AAA026-002	AAA311-001	AAA352-001	AAA387-001	AAA423-001
AAA031-002	AAA312-001	AAA353-001	AAA388-001	AAA424-001
AAA056-002	AAA313-001	AAA354-001	AAA389-001	AAA426-001
AAA074-002	AAA314-001	AAA355-001	AAA390-001	AAA427-001
AAA077-002	AAA318-001	AAA356-001	AAA391-001	AAA428-001
AAA089-002	AAA319-001	AAA357-001	AAA392-001	AAA429-002
AAA092-001	AAA320-001	AAA358-001	AAA393-001	AAA430-002
AAA093-002	AAA322-001	AAA359-001	AAA394-001	AAA431-002
AAA096-002	AAA323-001	AAA360-001	AAA395-001	AAA432-002
AAA098-002	AAA324-001	AAA361-001	AAA396-001	AAA433-002
AAA100-003	AAA325-001	AAA362-001	AAA397-001	AAA434-002
AAA102-002	AAA326-001	AAA363-001	AAA398-001	AAA435-001
AAA115-002	AAA327-001	AAA364-001	AAA399-001	AAA436-001
AAA147-003	AAA328-001	AAA365-001	AAA400-001	AAA437-001
AAA148-002	AAA329-001	AAA366-001	AAA401-001	AAA438-001
AAA149-002	AAA330-001	AAA367-001	AAA402-001	AAA439-001
AAA174-002	AAA332-001	AAA368-001	AAA403-001	AAA440-001
AAA218-002	AAA333-001	AAA369-001	AAA404-001	AAA441-001
AAA229-001	AAA334-001	AAA370-001	AAA405-001	AAA442-001
AAA230-001	AAA335-001	AAA371-001	AAA406-001	AAA443-001
AAA231-001	AAA336-001	AAA372-001	AAA407-001	AAA444-001
AAA232-001	AAA337-001	AAA373-001	AAA408-001	AAA445-001
AAA295-001	AAA339-001	AAA374-001	AAA409-001	AAA446-001
AAA296-001	AAA340-001	AAA375-001	AAA410-001	AAA447-001
AAA297-001	AAA341-001	AAA376-001	AAA411-001	AAA448-001
AAA298-001	AAA342-001	AAA377-001	AAA412-001	AAA449-001
AAA299-001	AAA343-001	AAA378-001	AAA413-001	AAA450-001
AAA301-001	AAA344-001	AAA379-001	AAA414-001	AAA451-002
AAA302-001	AAA345-001	AAA380-001	AAA415-001	AAA452-001
AAA303-001	AAA346-001	AAA381-001	AAA417-001	AAA453-002
AAA304-001	AAA347-001	AAA382-001	AAA418-001	AAA454-001
AAA305-001	AAA348-001	AAA383-001	AAA419-001	AAA455-001

AAA456-001	AAA525-001	AAA550-001	AAA579-001	AAA597-001
AAA501-001	AAA526-001	AAA551-001	AAA580-001	AAA601-001
AAA502-001	AAA527-001	AAA554-001	AAA581-001	AAA602-001
AAA503-001	AAA528-001	AAA555-001	AAA582-001	AAA603-001
AAA504-001	AAA536-001	AAA556-001	AAA583-001	AAA604-001
AAA505-001	AAA537-001	AAA557-001	AAA584-001	AAA605-001
AAA509-001	AAA538-001	AAA561-001	AAA585-001	AAA606-001
AAA510-001	AAA539-001	AAA562-001	AAA586-001	AAA607-001
AAA511-001	AAA540-001	AAA563-001	AAA587-001	AAA608-001
AAA512-001	AAA541-001	AAA564-001	AAA588-001	AAA609-001
AAA513-001	AAA542-001	AAA565-001	AAA589-001	AAA610-001
AAA514-001	AAA543-001	AAA566-001	AAA590-001	AAA611-001
AAA516-002	AAA544-001	AAA569-001	AAA591-001	AAA612-001
AAA517-001	AAA545-001	AAA572-001	AAA592-001	AAA613-001
AAA518-001	AAA546-001	AAA573-001	AAA593-001	
AAA522-001	AAA547-001	AAA575-001	AAA594-001	
AAA523-001	AAA548-001	AAA576-001	AAA595-001	
AAA524-001	AAA549-001	AAA578-001	AAA596-001	

d) The new/amended drawings with their identifier, as listed below, are given in Annex D.

DAA001-001	DAA012-001	DAA023-001	DAA034-001	DAA045-001
DAA002-001	DAA013-001	DAA024-001	DAA035-001	DAA046-002
DAA003-001	DAA014-001	DAA025-002	DAA036-001	DAA047-001
DAA004-001	DAA015-001	DAA026-002	DAA037-001	DAA048-002
DAA005-001	DAA016-001	DAA027-002	DAA038-001	DAA049-001
DAA006-001	DAA017-001	DAA028-002	DAA039-001	DAA050-001
DAA007-001	DAA018-001	DAA029-002	DAA040-001	DAA051-001
DAA008-001	DAA019-001	DAA030-002	DAA041-001	
DAA009-001	DAA020-001	DAA031-001	DAA042-001	
DAA010-001	DAA021-001	DAA032-001	DAA043-001	
DAA011-001	DAA022-001	DAA033-001	DAA044-001	

e) The new/amended figures with their identifier, as listed below, are given in Annex E.
.

DAE001-001	DAE004-001	DAE012-001	DAE042-001
DAE002-001	DAE005-001	DAE021-001	DAE092-001
DAE003-001	DAE009-001	DAE040-001	DAE119-001
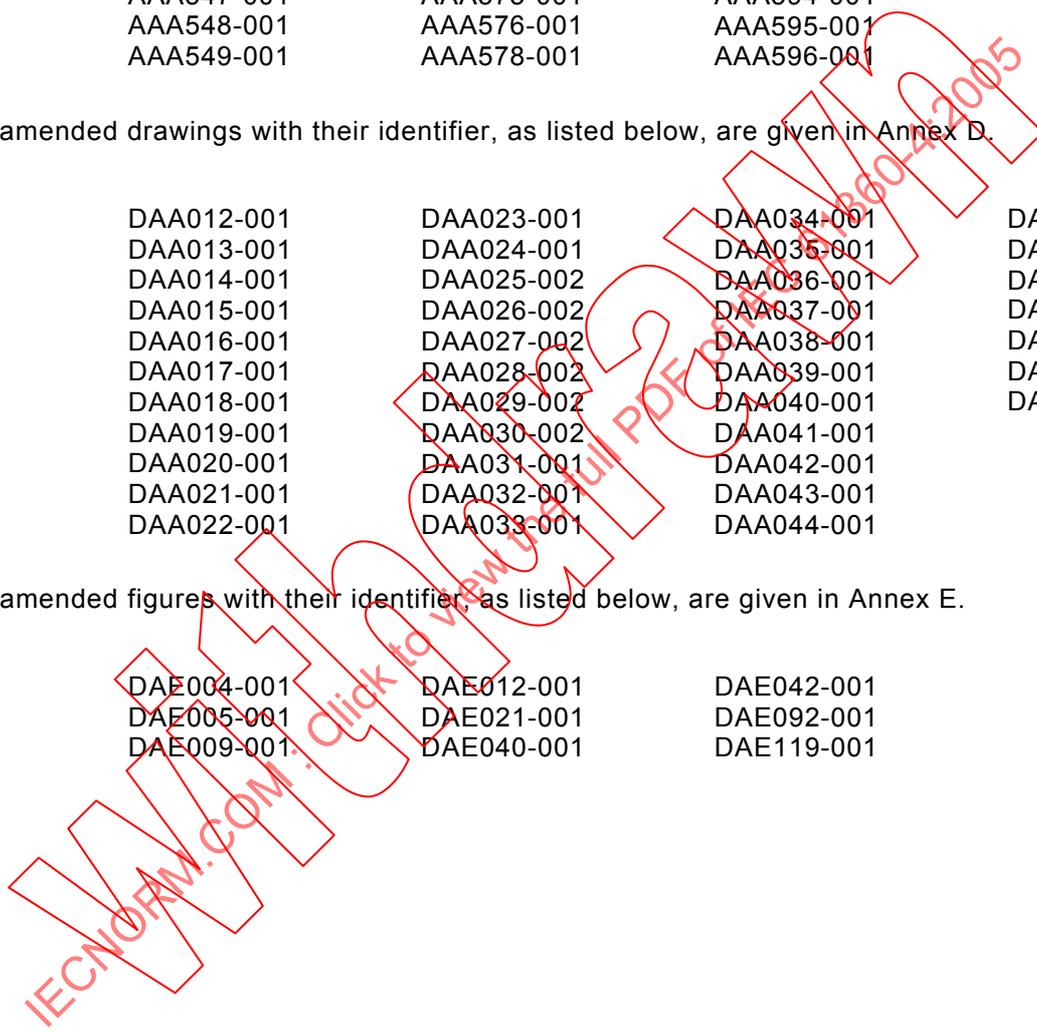
STANDARD DATA ELEMENT TYPES WITH ASSOCIATED CLASSIFICATION SCHEME FOR ELECTRIC COMPONENTS –

Part 4: IEC reference collection of standard data element types and component classes

1 General

1.1 Scope and object

This part of IEC 61360 specifies within two dictionaries:

- the definitions of data element types for electric components and materials used in electrotechnical equipment and systems;
- the definitions of the component classes with associated classification scheme.

These definitions are related to electric components including electronic and electromechanical components and materials used in electrotechnical equipment and systems.

The object of this standard is to provide a set of uniquely-identified data element types with

- an unambiguously defined meaning;
- a defined value format, and
- a prescribed value domain for the non-quantitative data element types.

The classification scheme for components, the component class definitions (whereby the relevant and the valid characteristic properties by specific data element types are assigned to each class of components) are used to define the data element types unambiguously and to make the entire set of data element types manageable.

The collection of data element types from this standard are meant for use in computerized systems for component selection and component management, parts list processing and computer-aided design, -manufacturing and -testing

1.2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050(702): 1992, *International Electrotechnical Vocabulary – Chapter 702: Oscillations, signals and related devices*

IEC 60191-4:1999, *Mechanical standardization of semiconductor devices – Part 4: Coding system and classification into forms of package outlines for semiconductor device packages*

IEC 61360-1: 2002, *Standard data element types with associated classification scheme for electric components – Part 1: Definitions – Principles and methods*

ES 59008-1, *Data requirements for semiconductor die – Part 1: General requirements*

ES 59008-2, *Data requirements for semiconductor die – Part 2: Vocabulary*

ES 59008-3, *Data requirements for semiconductor die – Mechanical, material and connectivity requirements*

ES 59008-4 (all parts), *Data requirements for semiconductor die – Specific requirements and recommendations*

ES 59008-5 (all parts), *Data requirements for semiconductor die – Particular requirements and recommendations for die types*

ES 59008-6-1, *Data requirements for semiconductor die – Part 6-1: Exchange data formats and data dictionary – Data exchange – DDX file format*

## 2	Terms and definitions

For the purposes of this document, the terms and definitions as given in clause 2 of IEC 61360-1, the terms and definitions of ES 59008-2 as well as the following apply.

2.1
shape
external form of a component package as given by the set of data element types

2.2
seating plane
theoretical plane of an electric component that coincides with the surface of the board if the component rests in its intended mounted position on the board

NOTE 1   This is often used as the reference plane.

NOTE 2   Not all components have a seating plane.

2.3
terminal
conductor that serves to connect a device electrically and/or mechanically with its environment

2.4
terminal form
form of a terminal of a package

2.5
terminal position
alignment of the physical position of the ends of the terminals of a component package

2.6
outline style
physical information enclosing the apparently plane figure presented by any object in sight, contour and/or external boundary of a component

2.7
true
qualifies the ideal value which characterises a quantity perfectly defined in the conditions which exist at the moment at which that quantity is observed, or the subject of a determinal

NOTE   This value could be arrived at only if all causes of measurement error were eliminated and the population was infinite. In the case of a finite population, the complete population must be considered.

2.8
true value
value which characterises a quantity perfectly defined, in the conditions which exist when that value is examined

NOTE   The true value of a quantity is an ideal concept and, in general, it cannot be known.

2.9
package
enclosure for one or more chips, film elements or other components, that allows electrical connection and provides mechanical and environmental protection

2.10
case
enclosure for one or more chips, film elements or other components, that allows mechanical connection and provides mechanical and environmental protection

2.11
mounting hole
hole in a mounting structure for mechanical connection and support

2.12
mounting socket
connector which intends to provide electrical and mechanical support for a component inserted into it

3   Maintenance and validation methodology

The collection of entities as defined in this standard is a dynamic collection which needs actively to be maintained.

IEC 61360-3 specifies the procedures that shall be followed by the validation agency and the maintenance agency of the IEC vocabulary of standard technical data element types with associated classification scheme and component classes as defined by this classification scheme.

4   How to read the annexes

4.1   Classification tree

In Annex A, the complete classification tree is given. Under the header '**Class**', the identifier of the class at that specific line is given, while under the header '**Class. DET**', on that line the identifier of the classifying data element type is given that has been used to define that class.

If relevant, under the header **'Drawing'** the identifier of the drawing related to the indicated **'Class'** is given.

4.2   Classes

For the classification of components[2] the principle of dividing the whole set of components into parts has been applied repeatedly, thereby creating a hierarchical tree of several levels of classes.

The goal of this classification scheme of components is to arrange the data element types in an unambiguous-structured way. A detailed description of the classification principles and the various attributes of the component class definitions are given in IEC 61360-1.

The various attributes of the component classes and the layout as used in this standard are explained with the aid of Figure 1a and Figure 1b. The class definitions are given in Annex B.

_____

[2]   The classification principles are also applicable to other entities like materials, packages, geometries, etc.

```
        1   2   3           4
        |   |   |           |
    AAA307-001  01
```

5 ——| **cylindrical**   **CY**

6 —— A set of cylindrical package outline styles of which each outline style can be described with the same set of data element types.

7 —— NOTE
CYLINDRICAL is a package style in which the body is cylindrical with the length no smaller than the diameter.

8 ——| **AAG056-001   terminal position code**

Subclasses
AAA325-001   axial leads
AAA326-001   bottom leads
9 —— AAA327-001   end connections
AAA328-001   radial leads
AAA329-001   uppers connections

Figure 1a

```
        1   2   3           4
        |   |   |           |
    AAA452-001  01
```

5 —— **clamp mount package**   **B005**

6 —— A set of clamp-mount cylindrical package outline styles with screw terminals in standard form on the upper surface of which each outline style can be described with the same set of data element types.

11 —— DAA047-001

Properties
AAG001-001   seated height
AAG008-001   terminal width
AAG012-001   terminal thickness
10 —— AAG014-001   package diameter
AAG017-001   terminal spacing
AAG092-001   package height zone
AAG094-001   terminal thread diameter
AAG097-001   terminal thread
12 —— IEC*****

Figure 1b

1   Code
2   Version number
3   Revision number
4   Coded name
5   Preferred name
6   Definition
7   Note
8   Classifying data element type
9   Subclasses, identifier + preferred name
10   Applicable data element types, identifier + preferred name
11   Drawing reference, identifier
12   Source document of package class definition

Figure 1 – Component package class specification attributes

For the classification of the shapes of package outlines, the following three characteristics of the package according to the codes defined in IEC 60191-4 are used:

- outline style ;

- terminal position;

- terminal form.

Following these characteristics, four or five levels of classification are then defined. The codes used are given as informative annexes to this standard as follows :

- Clause G.1: level 1 :   identified by the outline style codes from Table G.1;
- Clause G.2: level 2 :   identified by the terminal position codes from TableG.2;
- Clause G.3: level 3 :   identified by the terminal form codes from Table G.3;
- Clause G.4   level 4 :   identified by the terminal variant codes from Table G.4; and
- Clause G.5: level 5 :   (optional) identified by the body variant codes from Table G.5.

4.3 Data element types

Various attributes of the data element types and the layout as used in this standard are explained with the aid of Figure 2. For a detailed description of the various attributes of the data element type definitions, see IEC 61360-1.

The data element type definitions are given in Annex C.
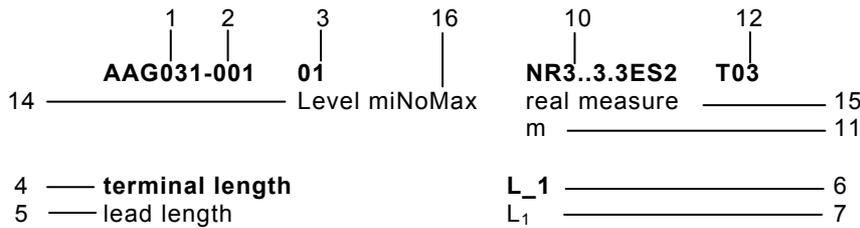
```
        1   2      3      16        10          12
        |   |      |      |         |           |
   AAG031-001    01              NR3..3ES2    T03
14 ──────────────── Level miNoMax   real measure ──────── 15
                                    m ──────────────────── 11

 4 ── terminal length          L_1 ──────────────────── 6
 5 ── lead length              L₁  ──────────────────── 7
```

The length (in m) as specified by level (miNoMax) of
8 ── terminal available for mounting measured from the
seating plane.
9 ── NOTE
L1 refers to that part of the terminal over which the
diameter Øb1 is closely controlled.

13 ── BS3934 issue 1 : 1975

DAE009-001 Lead lengths and diameters

Figure 2a
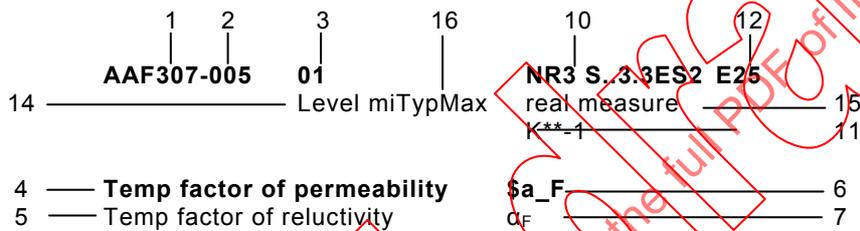
```
        1   2      3      16        10          12
        |   |      |      |         |           |
   AAF307-005    01              NR3 S..3ES2   E25
14 ──────────────── Level miTypMax  real measure ──────── 15
                                    K**-1 ──────────────── 11

 4 ── Temp factor of permeability   $a_F ──────────────── 6
 5 ── Temp factor of reluctivity    αF  ──────────────── 7
```

Value as specified by level (miTypMax) of the negative
8 ── of the change in the permeability due to a change in
temperature, divided by that change in temperature (in
K**-1) of a soft magnetic material at specified frequency.
17 ── AAE029-005=frequency

$$\alpha_F = -\frac{\frac{1}{\mu_\theta} - \frac{1}{\mu_{ref}}}{\theta - \theta_{ref}} = \frac{\mu_\theta - \mu_{ref}}{\mu_\theta \mu_{ref}(\theta - \theta_{ref})}$$

18

where μ_θ and μ_{ref} are the permeabilities at
temperatures θ and θ_{ref} respectively

13 ── IEC 60050(221) (1990)

Figure 2b

1	Code	10	Value format
2	Version number	11	Unit of measure
3	Revision number	12	Data element type class
4	Preferred name	13	Source document of data element type definition
5	Synonymous name	14	Data type
6	Short name	15	Data value
7	Preferred letter symbol	16	Level
8	Definition	17	Condition
9	Note	18	Formula

Figure 2 – Data element type specification attributes

4.4   Drawings

A drawing illustrates the meaning of a class containing a group of data element types describing the geometrical characteristics of a component.

The various attributes of the drawings and the layout as used in this standard are explained with the aid of Figure 3. For a detailed description of the various attributes of the data element type definitions, see IEC 61360-1.

The drawing definitions are given in Clause D.1 while the drawing of the packages themselves are given in Clause D.2.

```
           1      2       3
           |      |       |
           |      |       |
        DAA045-001       01


5 ——— UCY-D-T000-B005


4 ——— Cylindrical package, top tag terminals, clamp mount


        DXF      DAX045.DXF
        HP-GL  DAX045.HGL
          |              |
          7              6
```

1   Code
2   Version number
3   Revision number
4   Drawing title
5   Descriptive designator
6   File name
7   File format
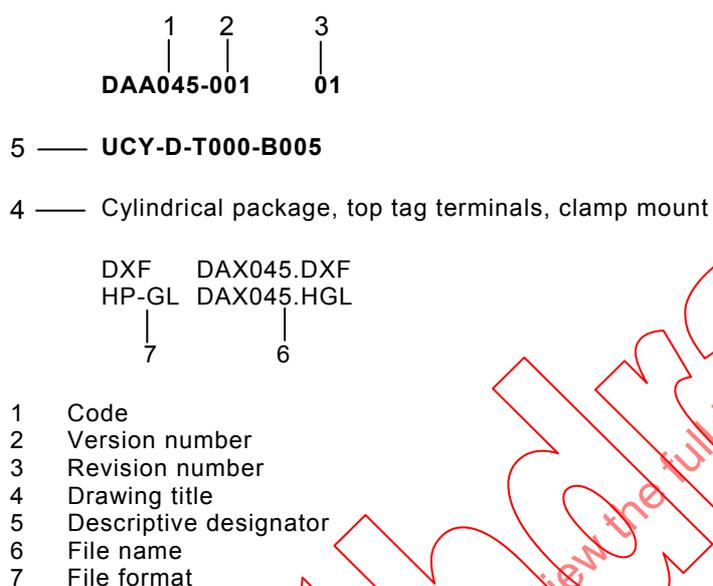
Figure 3 – Drawing specification attributes

4.5   Figures

A figure is an illustration that clarifies the meaning of the definition of a data element type.

The various attributes of the figure and the layout as used in this standard are explained with the aid of Figure 4. For a detailed description of the various attributes of the data element type definitions, see IEC 61360-1.

The figure definitions are given in Clause E.1 while the figures themselves are given in Clause E.2.

```
        1      2        3
        |      |        |
        |      |        |
     DAE004-001        01
```

4 ——— Cylindrical package dimensions

```
     DXF               DAE004.DXF
     JPEG              DAE004.JPG
     Windows Meta-file DAE004.WMF
            |                 |
            6                 5
```

1   Code
2   Version number
3   Revision number
4   Descriptive designator
5   File name
6   File format
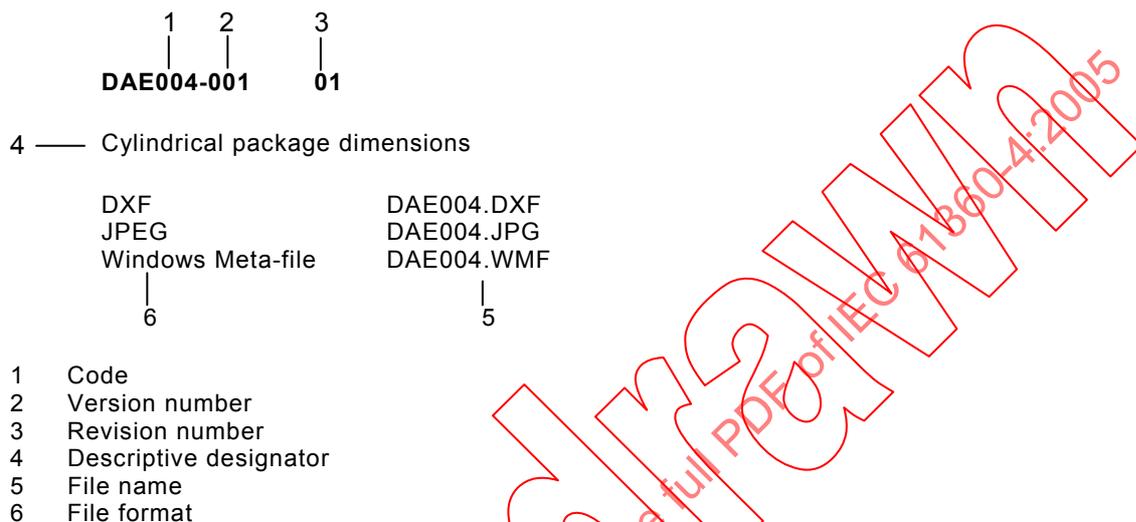
Figure 4 – Figure specification attributes

4.6   Index on keywords

To facilitate an easy way of searching, in Annex F an index on keywords from the preferred name of data element types and condition data element types is given. Here, the keywords are presented in tabular form with the keyword in the left column, the identifying code of the class of the data element type in which the keyword appears in the column on the right and the corresponding preferred name in the middle.

Annex A
(normative)

Classification scheme

	Class. DET	Class	Drawing
IECREF = IEC reference collection		AAA000-001	
CO = components	AAE000-001	AAA001-001	
EE = electric-electronic	AAE001-005	AAA002-003	
AMP = amplifier	AAE002-006	AAA003-001	
LF = low frequency	AAF146-005	AAA004-001	
PWA = power amplifier	AAF169-005	AAA005-001	
VTA = voltage amplifier	AAF169-005	AAA006-001	
DFA = differential amplifier	AAAF191-005	AAA007-001	
ACA = ac-coupled amplifier	AAF192-005	AAA009-001	
OPA = operational amplifier (dc coupled)	AAF192-005	AAA008-001	
SSA = single sided amplifier	AAF191-005	AAA010-001	
RF = radio frequency	AAF146-005	AAA011-001	
WB = wide band	AAF146-005	AAA012-001	
ANT = antenna	AAE002-006	AAA013-002	
CAP = capacitive (whip)	AAE511-007	AAA014-002	
IND = inductive (ferroceptor)	AAE511-007	AAA015-002	
RES = resistive (tuned dipole)	AAE511-007	AAA016-002	
BAT = battery	AAAE002-006	AAA017-001	
PRI = primary battery (single charge)	AAE510-005	AAA018-001	
SEC = secondary battery (rechargeable)	AAE510-005	AAA019-001	
CAP = capacitor	AAE002-006	AAA020-002	
FIX = fixed	AAE003-006	AAA021-003	

	Class. DET	Class	Drawing
AIR = air capacitor	AAE004-007	AAA022-001	
CER = ceramic capacitor	AAE004-007	AAA023-001	
CL1 = class1 ceramic capacitor	AAE038-005	AAA024-001	
CL2 = class 2 ceramic capacitor	AAE038-004	AAA025-001	
ELC = electrolytic capacitor	AAE004-007	AAA026-002	
STAN = solid tantalum electrolytics	AAJ001-001	AAA501-001	
NTAN = non-solid tatalum electrolytics	AAJ001-001	AAA502-001	
SAL = solid aluminium electrolytics	AAJ001-001	AAA503-001	
NAL = non-solid aluminium electrolytics	AAJ001-001	AAA504-001	
FLM = film capacitor	AAE004-007	AAA027-001	
GLS = glass capacitor	AAE004-007	AAA028-001	
MIC = mica capacitor	AAE004-007	AAA029-002	
MLAY = multilayer capacitor	AAE004-007	AAA505-001	
PAP = paper capacitor	AAE004-007	AAA030-001	
VAR = variable	AAE003-006	AAA031-002	
CND = conductor	AAE002-006	AAA032-001	
BAR = bare conductor	AAF239-005	AAA033-001	
INS = insulated conductor	AAF239-005	AAA034-001	
CBL = cable (multi-conducted)	AAF249-005	AAA035-005	
POW = power	AAE152-005	AAA036-001	
SIG = signal	AAE152-005	AAA037-001	
LF = low frequency	AAF146-005	AAA038-001	
RF = radio frequency	AAF146-005	AAA39-001	
IWR = insulated wire (single conductor)	AAF249-005	AAA040-001	
DEL = delay line	AAE002-006	AAA041-001	
DID = diode device	AAE002-006	AAA042-001	

	Class. DET	Class	Drawing
BRI = bridge rectifier	AAF305-005	AAA043-001	
DIO = diode	AAF305-005	AAA044-001	
BOD = breakover diode	AAE273-007	AAA045-001	
REC = rectifier diode	AAE273-007	AAA046-001	
SIG = signal diode	AAE273-007	AAA047-002	
STB = stabilizer diode	AAE273-007	AAA048-001	
CUR = current regulator diode	AAE312-005	AAA049-001	
REF = voltage reference diode	AAE312-005	AAA050-001	
REG = voltage regulator diode	AAE312-005	AAA051-001	
STA = stabistor	AAE312-005	AAA052-001	
SUP = transient suppressor diode	AAE312-005	AAA053-001	
VAR = variable diode	AAE273-007	AAA054-002	
VMP = voltage multiplier	AAF305-005	AAA055-001	
FIBOPTIC = fibre optics	AAE002-006	AAA578-001	
LINKS = fibre optic links	AAJ048-001	AAA579-001	
CONN = fibre optic connectors)	AAJ048-001	AAA580-001	
SWI = fibre optic switches	AAJ048-001	AAA581-001	
BRA = fibre optic branches	AAJ048-001	AAA582-001	
COUP = fibre optic couplers/splicers	AAJ048-001	AAA583-001	
ATT = fibre optic attenuators	AAJ048-001	AAA584-001	
DET = fibre optic detectors	AAJ048-001	AAA585-001	
ISOL = fibre optic isolators	AAJ048-001	AAA586-001	
NETW = fibre optic networks	AAJ048-001	AAA587-001	
SOURC = fibre optic light sources	AAJ048-001	AAA588-001	
MOD = fibre optic modulators	AAJ048-001	AAA589-001	

	Class. DET	Class	Drawing
TXRX = fibre optic transmitters/receivers	AAJ048-001	AAA590-001	
WG = fibre optic waveguiders	AAJ048-001	AAA591-001	
CAB = fibre optic cables	AAJ048-001	AAA592-001	
FIL = fibre optic filters	AAJ048-001	AAA593-001	
LENS = fibre optic lenses	AAJ048-001	AAA594-001	
FIL = filter	AAE002-006	AAA056-002	
IC = IC	AAE002-006	AAA057-001	
AD = AD (analogue/digital)	AAE077-005	AAA072-001	
ANA = analogue	AAE077-005	AAA058-001	
DIG = digital	AAE077-005	AAA059-001	
CSI = CSI (combinatorial sequential interface)	AAE085-005	AAA060-001	
MUC = microcontroller	AAE085-005	AAA061-001	
MUP = microprocessor	AAE085-005	AAA062-001	
PLD = PLD (programmable logic device	AAE085-005	AAA063-001	
STO = storage	AAE085-005	AAA064-002	
CAM = CAM	AAE722-007	AAA065-001	
CCD = charge coupled device	AAE722-007	AAA066-001	
RAM = RAM	AAE722-007	AAA067-001	
DRM = DRAM	AAF233-005	AAA068-001	
SRM = SRAM	AAF233-005	AAA069-001	
ROM = ROM	AAE722-007	AAA070-001	
REG = register	AAE722-007	AAA071-002	
PER = periodic/DC	AAE077-005	AAA073-001	
IND = inductor	AAE002-006	AAA074-002	
FIX = fixed inductors	AAE003-006	AAA601-001	
DFL = deflection units	AAF390-002	AAA225-001	
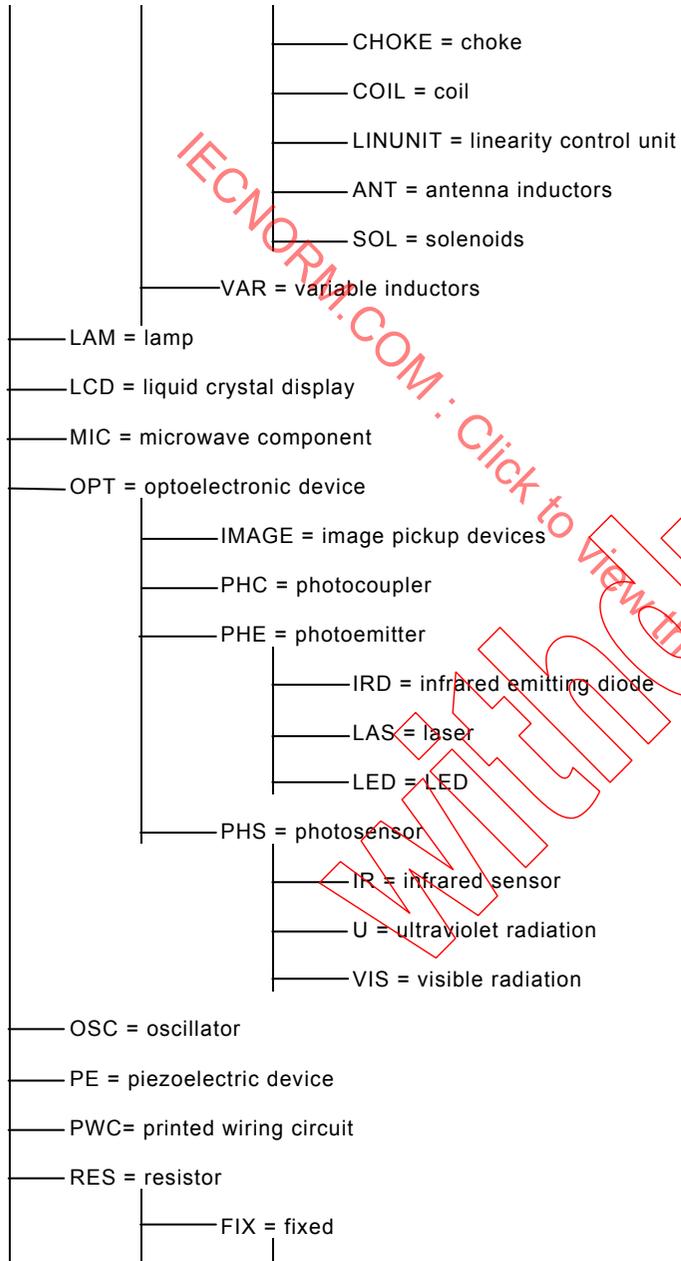
	Class. DET	Class	Drawing
CHOKE = choke	AAF390-002	AAA226-001	
COIL = coil	AAF390-002	AAA227-001	
LINUNIT = linearity control unit	AAF390-002	AAA228-001	
ANT = antenna inductors	AAF390-002	AAA603-001	
SOL = solenoids	AAF390-002	AAA604-001	
VAR = variable inductors	AAE003-006	AAA602-001	
LAM = lamp	AAE002-006	AAA075-001	
LCD = liquid crystal display	AAE002-006	AAA076-001	
MIC = microwave component	AAE002-006	AAA229-001	
OPT = optoelectronic device	AAE002-006	AAA077-002	
IMAGE = image pickup devices	AAE545-006	AAA597-001	
PHC = photocoupler	AAE545-006	AAA078-001	
PHE = photoemitter	AAE545-006	AAA079-001	
IRD = infrared emitting diode	AAE555-005	AAA081-001	
LAS = laser	AAE555-005	AAA082-001	
LED = LED	AAE555-005	AAA080-001	
PHS = photosensor	AAE545-006	AAA083-001	
IR = infrared sensor	AAE566-005	AAA084-001	
U = ultraviolet radiation	AAE566-005	AAA085-001	
VIS = visible radiation	AAE566-005	AAA086-001	
OSC = oscillator	AAE002-006	AAA087-001	
PE = piezoelectric device	AAE002-006	AAA088-001	
PWC= printed wiring circuit	AAE002-006	AAA232-001	
RES = resistor	AAE002-006	AAA089-002	
FIX = fixed	AAE003-006	AAA090-002	

	Class. DET	Class	Drawing
LIN = linear	AAE114-007	AAA091-002	
MUL = linear resistor networks	AAF101-006	AAA093-002	
SIN = single linear resistors	AAF101-006	AAA092-002	
CHIP = fixed chip resistor	AAJ003-001	AAA512-001	
FUS = fixed fusing resistor	AAJ003-001	AAA514-001	
LP = fixed low power resistor	AAJ003-001	AAA511-001	
PREC = fixed precision resistor	AAJ003-001	AAA509-001	
PWR = fixed power resistor	AAJ003-001	AAA510-001	
THERM = linear positive temperature coefficient resistor	AAJ003-001	AAA513-001	
NLN = non-linear	AAE114-007	AAA094-001	
LDR = light dependent resistor	AAE122-005	AAA095-001	
TDR = thermistor (temperature)	AAE122-005	AAA096-002	
NTC = NTC	AAE126-005	AAA097-001	
PTC = PTC	AAE126-005	AAA098-002	
VDR = varistor (voltage)	AAE122-005	AAA099-001	
VAR = variable	AAE003-006	AAA100-003	
POT = potentiometer (3 or more terminals	AAE139-005	AAA102-002	
PRESET = preset potentiometer	AAJ006-002	AAA516-002	
PRECROT = rotary precision potentiometer	AAJ006-002	AAA607-001	
SLIDE = slide potentiometer	AAJ006-002	AAA517-001	
LPROT = low-power rotary potentiometer	AAJ006-002	AAA609-001	
PWRROT = power rotary potentiometer	AAJ006-002	AAA608-001	
TT = two terminal variable resistor	AAE139-005	AAA101-001	
RESON = resonators	AAE002-006	AAA596-001	
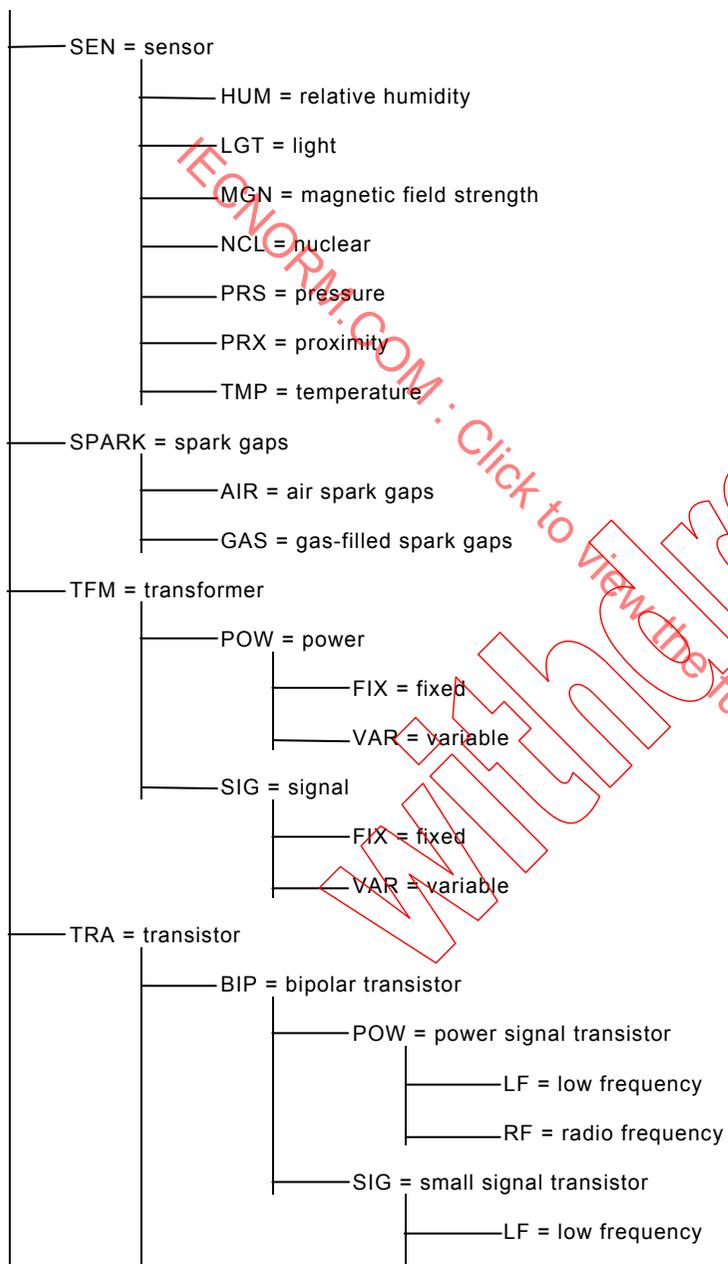
	Class. DET	Class	Drawing
SEN = sensor	AAE002-006	AAA103-001	
HUM = relative humidity	AAE892-005	AAA104-001	
LGT = light	AAE892-005	AAA105-001	
MGN = magnetic field strength	AAE892-005	AAA106-001	
NCL = nuclear	AAE892-005	AAA107-001	
PRS = pressure	AAE892-005	AAA108-001	
PRX = proximity	AAE892-005	AAA109-001	
TMP = temperature	AAE892-005	AAA110-001	
SPARK = spark gaps	AAE002-006	AAA595-001	
AIR = air spark gaps	AAJ081-001	AAA605-001	
GAS = gas-filled spark gaps	AAJ081-001	AAA606-001	
TFM = transformer	AAE002-006	AAA111-001	
POW = power	AAE152-001	AAA112-001	
FIX = fixed	AAE003-006	AAA113-001	
VAR = variable	AAA114-001	AAA114-001	
SIG = signal	AAE152-001	AAA115-002	
FIX = fixed	AAE003-006	AAA116-001	
VAR = variable	AAE003-006	AAA117-001	
TRA = transistor	AAE002-006	AAA118-001	
BIP = bipolar transistor	AAE401-001	AAA119-002	
POW = power signal transistor	AAE971-007	AAA120-002	
LF = low frequency	AAF146-005	AAA121-001	
RF = radio frequency	AAF146-005	AAA122-001	
SIG = small signal transistor	AAE971-007	AAA123-002	
LF = low frequency	AAF146-005	AAA124-001	

	Class. DET	Class	Drawing
RF = radio frequency	AAF146-005	AAA125-001	
FET = field effect transistor	AAE401-001	AAA126-002	
POW = power signal transistor	AAE971-007	AAA127-002	
LF = low frequency	AAF146-005	AAA128-001	
RF = radio frequency	AAF146-005	AAA129-001	
SIG = small signal transistor	AAE971-007	AAA130-002	
TRG = trigger device	AAE002-006	AAA131-001	
DIA = diac	AAE724-005	AAA132-001	
THY = thyristor	AAE724-005	AAA133-001	
FTO = fast turn-off thyristor	AAE743-005	AAA134-001	
GTO = gate turn-off thyristor	AAE743-005	AAA135-001	
RVB = reverse blocking thyristor	AAE743-005	AAA136-001	
TRI = triac	AAE724-005	AAA137-001	
TUB = tube	AAE002-006	AAA138-001	
CRT = display tube (cathode-ray tube)	AAE696-005	AAA139-001	
COL = colour display tube	AAF202-005	AAA140-001	
MCR = monochrome display tube	AAF202-005	AAA141-002	
GAS = gas filled tube	AAE696-005	AAA142-001	
PHO = photo sensitive tube	AAE696-005	AAA142-001	
SCC = space charge controlled tube	AAE696-005	AAA142-001	
SCW = space charged wave tube	AAE696-005	AAA142-001	
TUN = tuner	AAE002-006	AAA146-001	
EM = electromechanical	AAE001-005	AAA147-003	
CON = connector	AAE060-006	AAA148-002	
CIRC = circular connector	AAE349-006	AAA518-001	
IC = IC connector	AAE349-006	AAA522-001	

	Class. DET	Class	Drawing
JACK = plug and jack	AAE349-006	AAA526-001	
ASSY = plug assemblies	AAE349-006	AAA549-001	
CMPLX = complex jack boards	AAJ024-001	AAA550-001	
CONC = concentric plug and jack	AAJ024-001	AAA536-001	
JACK = concentric jack	AAJ025-001	AAA538-001	
MULT = multiple concentric plug	AAJ025-001	AAA539-001	
PLUG = concentric plug	AAJ025-001	AAA537-001	
PIN = pin plug and jack	AAJ024-001	AAA540-001	
JACK = pin jack	AAJ026-001	AAA542-001	
MULT = pin multiple jack	AAJ026-001	AAA543-001	
PIN = pin plug	AAJ026-001	AAA541-001	
SHLD = shielded pin jack	AAJ026-001	AAA544-001	
PWR = plug and jack for d.c. power	AAJ024-001	AAA545-001	
CAR = car plug	AAJ027-001	AAA548-001	
JACK = dc power jack	AAJ027-001	AAA547-001	
PLUG dc power plug	AAJ027-001	AAA546-001	
MOD = modular connector	AAE349-006	AAA523-001	
PCB = printed circuit board	AAE349-006	AAA520-001	
RECT = rectangular connector	AAE349-006	AAA519-001	
RF = RF connector	AAE349-006	AAA521-001	
SOCK = sockets	AAE349-006	AAA527-001	
ANT = socket for antenna feeder	AAJ028-001	AAA565-001	
FUSE = fuse holder and socket	AAJ028-001	AAA564-001	
IC = socket for integrated circuits	AAJ028-001	AAA555-001	
LIGHT = lighting socket	AAJ028-001	AAA563-001	
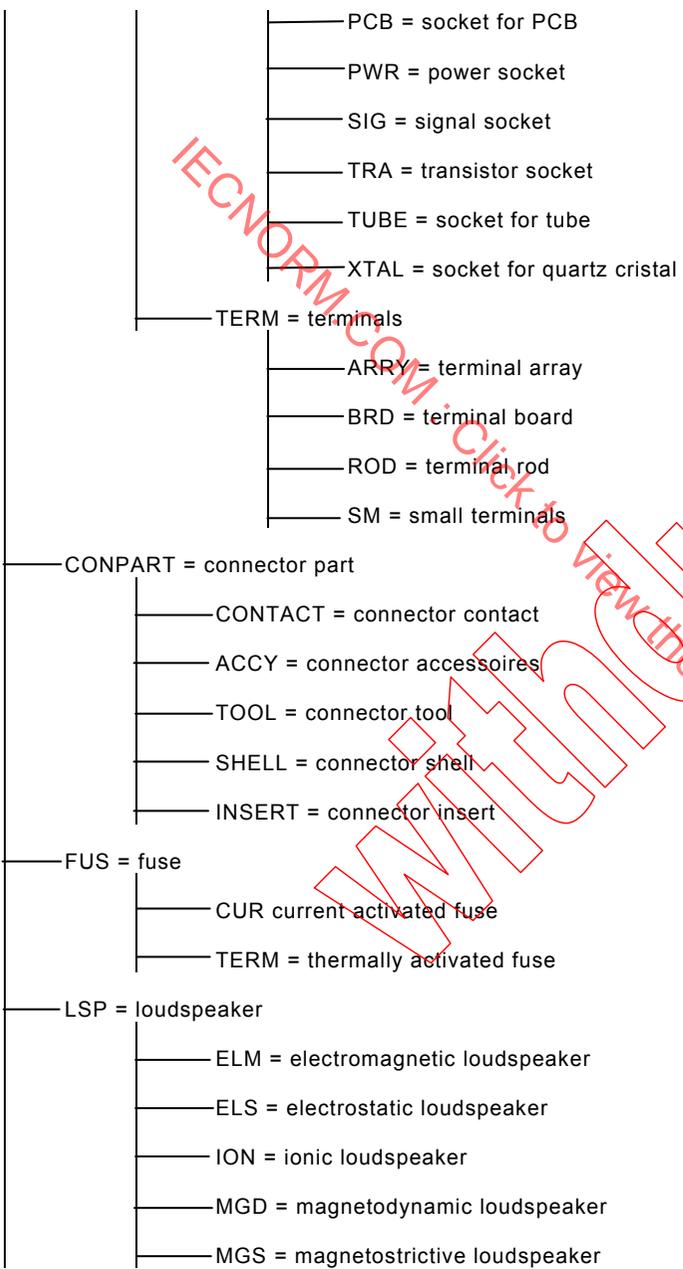
	Class. DET	Class	Drawing
PCB = socket for PCB	AAJ028-001	AAA556-001	
PWR = power socket	AAJ028-001	AAA557-001	
SIG = signal socket	AAJ028-001	AAA561-001	
TRA = transistor socket	AAJ028-001	AAA554-001	
TUBE = socket for tube	AAJ028-001	AAA551-001	
XTAL = socket for quartz cristal	AAJ028-001	AAA562-001	
TERM = terminals	AAE349-006	AAA528-001	
ARRY = terminal array	AAJ031-001	AAA569-001	
BRD = terminal board	AAJ031-001	AAA572-001	
ROD = terminal rod	AAJ031-001	AAA573-001	
SM = small terminals	AAJ031-001	AAA566-001	
CONPART = connector part	AAE060-006	AAA610-001	
CONTACT = connector contact	AAF464-001	AAA524001	
ACCY = connector accessoires	AAF464-001	AAA525-001	
TOOL = connector tool	AAF464-001	AAA611-001	
SHELL = connector shell	AAF464-001	AAA612-001	
INSERT = connector insert	AAF464-001	AAA613-001	
FUS = fuse	AAE060-006	AAA149-002	
CUR current activated fuse	AAJ012-002	AAA575-001	
TERM = thermally activated fuse	AAJ012-002	AAJ576-001	
LSP = loudspeaker	AAE060-006	AAA150-001	
ELM = electromagnetic loudspeaker	AAE005-006	AAA154-001	
ELS = electrostatic loudspeaker	AAE005-006	AAA157-001	
ION = ionic loudspeaker	AAE005-006	AAA153-001	
MGD = magnetodynamic loudspeaker	AAE005-006	AAA152-001	
MGS = magnetostrictive loudspeaker	AAE005-006	AAA158-001	
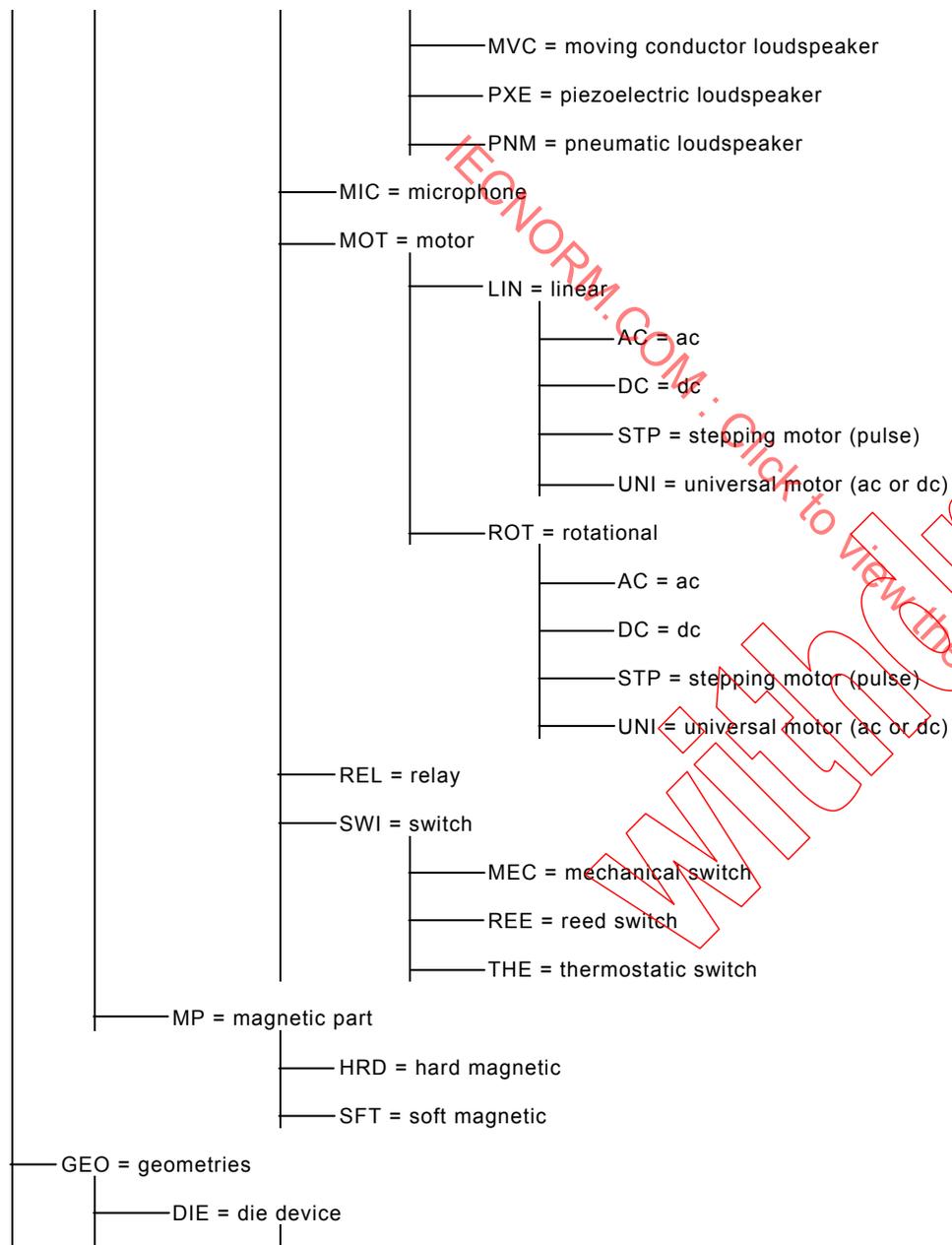
	Class. DET	Class	Drawing
MVC = moving conductor loudspeaker	AAE005-006	AAA151-001	
PXE = piezoelectric loudspeaker	AAE005-006	AAA156-001	
PNM = pneumatic loudspeaker	AAE005-006	AAA155-001	
MIC = microphone	AAE060-006	AAA159-001	
MOT = motor	AAE060-006	AAA160-005	
LIN = linear	AAE179-005	AAA161-001	
AC = ac	AAE178-005	AAA162-001	
DC = dc	AAE178-005	AAA163-001	
STP = stepping motor (pulse)	AAE178-005	AAA164-001	
UNI = universal motor (ac or dc)	AAE178-005	AAA165-001	
ROT = rotational	AAE179-001	AAA166-001	
AC = ac	AAE178-005	AAA167-001	
DC = dc	AAE178-005	AAA168-001	
STP = stepping motor (pulse)	AAE178-005	AAA169-001	
UNI = universal motor (ac or dc)	AAE178-005	AAA170-001	
REL = relay	AAE060-006	AAA171-001	
SWI = switch	AAE60-005	AAA172-001	
MEC = mechanical switch	AAE926-005	AAA174-002	
REE = reed switch	AAE926-005	AAA173-001	
THE = thermostatic switch	AAE926-005	AAA175-001	
MP = magnetic part	AAE001-005	AAA215-001	
HRD = hard magnetic	AAE759-005	AAA216-001	
SFT = soft magnetic	AAE759-005	AAA217-001	
GEO = geometries	AAE000-001	AAA301-001	
DIE = die device	AAG000-001	AAA302-001	

	Class. DET	Class	Drawing
BARE = bare die with pads on one side and without connection structure	AAD004-001	AAA295-001	
BUMP = bare die with bumped pads	AAD004-001	AAA296-001	
DUAL = bare die with pads on both surfaces	AAD004-001	AAA299-001	
LEAD = bare die with attached lead frame	AAD004-001	AAA297-001	
MPD = minimally packaged die device	AAD004-001	AAA298-001	
PAK = packaging outline	AAG000-001	AAA303-001	
BD = beads	AAG057-001	AAA304-001	
A = axial	AAG056-001	AAA322-001	
W = wire	AAG058-001	AAA353-001	
T001 = straight	AAG054-001	AAA391-001	DAA001-001
B = bottom	AAG056-001	AAA323-001	
W = wire	AAG058-001	AAA354-001	
T001 = straight	AA9054-001	AAA392-001	DAA002-001
T002 = formed	AAG054-001	AAA393-001	DAA003-001
CC = chip carriers	AAG057-001	AAA305-001	
Q = quad	AAG056-001	AAA324-001	
J = J-bend	AAG058-001	AAA355-001	
T000 = standard	AAG054-001	AAA394-001	
B002 = non-bumped package	AAG055-001	AAA445-001	DAA040-001
N = no lead	AAG058-001	AAA356-001	
T000 = standard	AAG054-001	AAA395-001	
B009 = non-cavity package (moulded)	AAG055-001	AAA446-001	DAA041-001
B010 = cavity package (ceramic)	AAG055-001	AAA447-001	DAA042-001
CY = cylindricals	AAG057-001	AAA307-001	
A = axial	AAG056-001	AAA325-001	
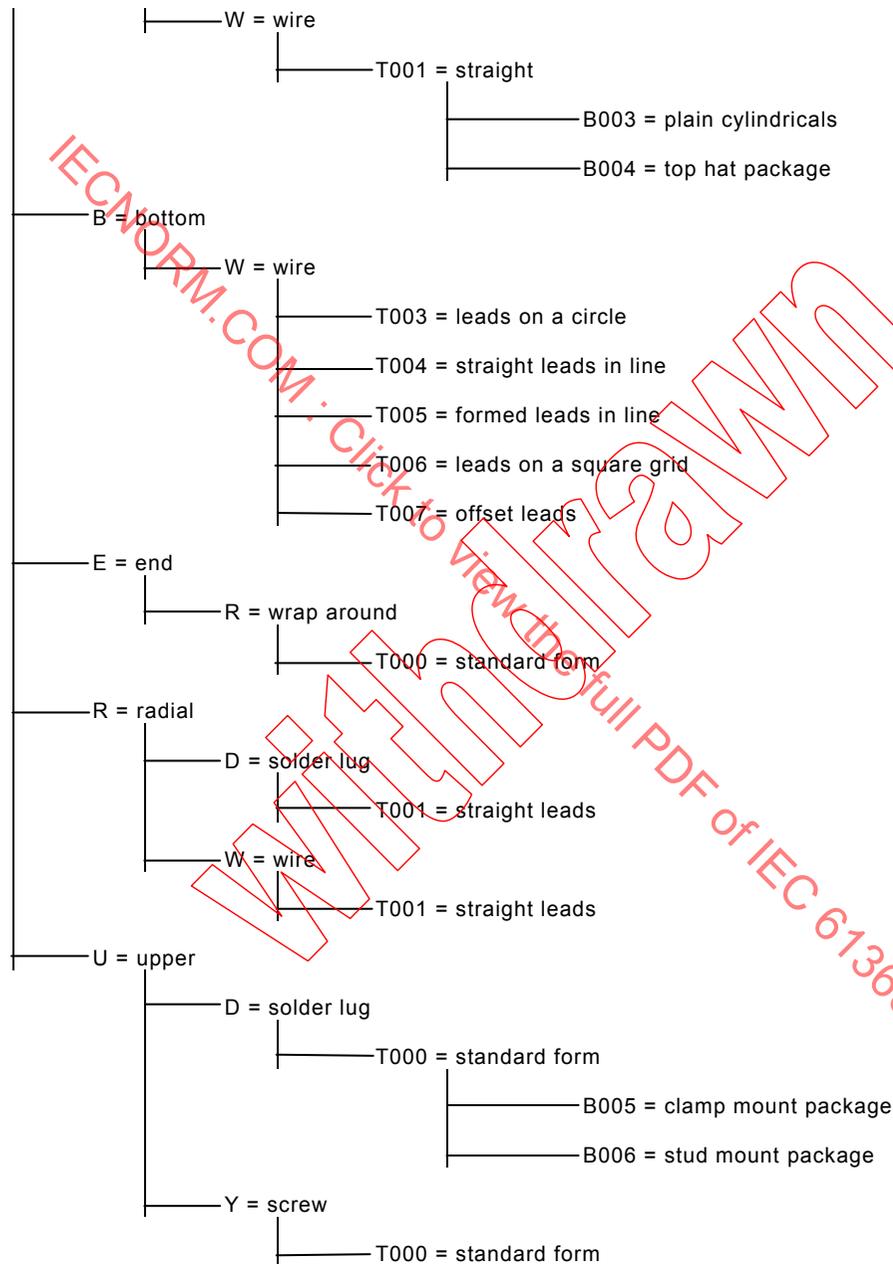
	Class. DET	Class	Drawing
W = wire	AAG058-001	AAA357-001	
T001 = straight	AAG054-001	AAA396-001	
B003 = plain cylindricals	AAG055-001	AAA448-001	DAA043-001
B004 = top hat package	AAG055-001	AAA449-001	DAA044-001
B = bottom	AAG056-001	AAA326-001	
W = wire	AAG058-001	AAA358-001	
T003 = leads on a circle	AAG054-001	AAA397-001	DAA004-001
T004 = straight leads in line	AAG054-001	AAA398-001	DAA005-001
T005 = formed leads in line	AAG054-001	AAA399-001	DAA006-001
T006 = leads on a square grid	AAG054-001	AAA400-001	DAA007-001
T007 = offset leads	AAG054-001	AAA401-001	DAA008-001
E = end	AAG056-001	AAA327-001	
R = wrap around	AAG058-001	AAA359-001	
T000 = standard form	AAG054-001	AAA402-001	DAA009-001
R = radial	AAG056-001	AAA328-001	
D = solder lug	AAG058-001	AAA360-001	
T001 = straight leads	AAG054-001	AAA402-001	DAA010-001
W = wire	AAG058-001	AAA361-001	
T001 = straight leads	AAG054-001	AAA404-001	DAA011-001
U = upper	AAG056-001	AAA329-001	
D = solder lug	AAG058-001	AAA362-001	
T000 = standard form	AAG054-001	AAA405-001	
B005 = clamp mount package	AAG055-001	AAA450-001	DAA045-001
B006 = stud mount package	AAG055-001	AAA451-002	DAA046-002
Y = screw	AAG058-001	AAA363-001	
T000 = standard form	AAG054-001	AAA406-001	
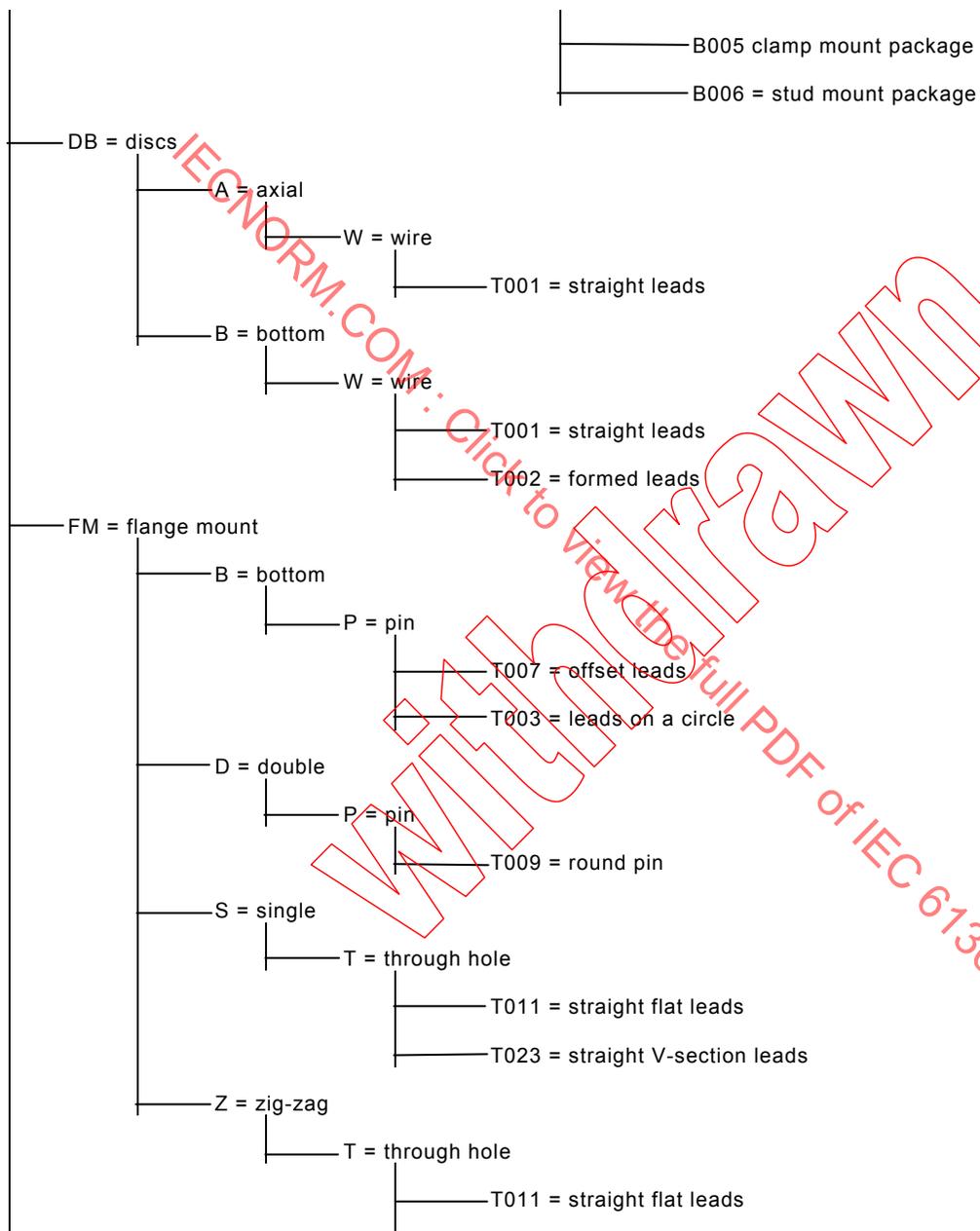
	Class. DET	Class	Drawing
B005 clamp mount package	AAG055-001	AAA452-001	DAA047-001
B006 = stud mount package	AAG055-001	AAA453-002	DAA048-002
DB = discs	AAG057-001	AAA308-001	
A = axial	AAG056-001	AAA330-001	
W = wire	AAG058-001	AAA364-001	
T001 = straight leads	AAG054-001	AAA407-001	DAA012-001
B = bottom	AAG056-001	AAA331-001	
W = wire	AAG058-001	AAA365-001	
T001 = straight leads	AAG054-001	AAA408-001	DAA013-001
T002 = formed leads	AAG054-001	AAA409-001	DAA014-001
FM = flange mount	AAG057-001	AAA309-001	
B = bottom	AAG056-001	AAA332-001	
P = pin	AAG058-001	AAA366-001	
T007 = offset leads	AAG054-001	AAA410-001	DAA015-001
T003 = leads on a circle	AAG054-001	AAA411-001	DAA016-001
D = double	AAG056-001	AAA333-001	
P = pin	AAG058-001	AAA367-001	
T009 = round pin	AAG054-001	AAA412-001	DAA017-001
S = single	AAG056-001	AAA334-001	
T = through hole	AAG058-001	AAA368-001	
T011 = straight flat leads	AAG054-001	AAA413-001	DAA018-001
T023 = straight V-section leads	AAG054-001	AAA414-001	DAA019-001
Z = zig-zag	AAG056-001	AAA335-001	
T = through hole	AAG058-001	AAA369-001	
T011 = straight flat leads	AAG054-001	AAA415-001	
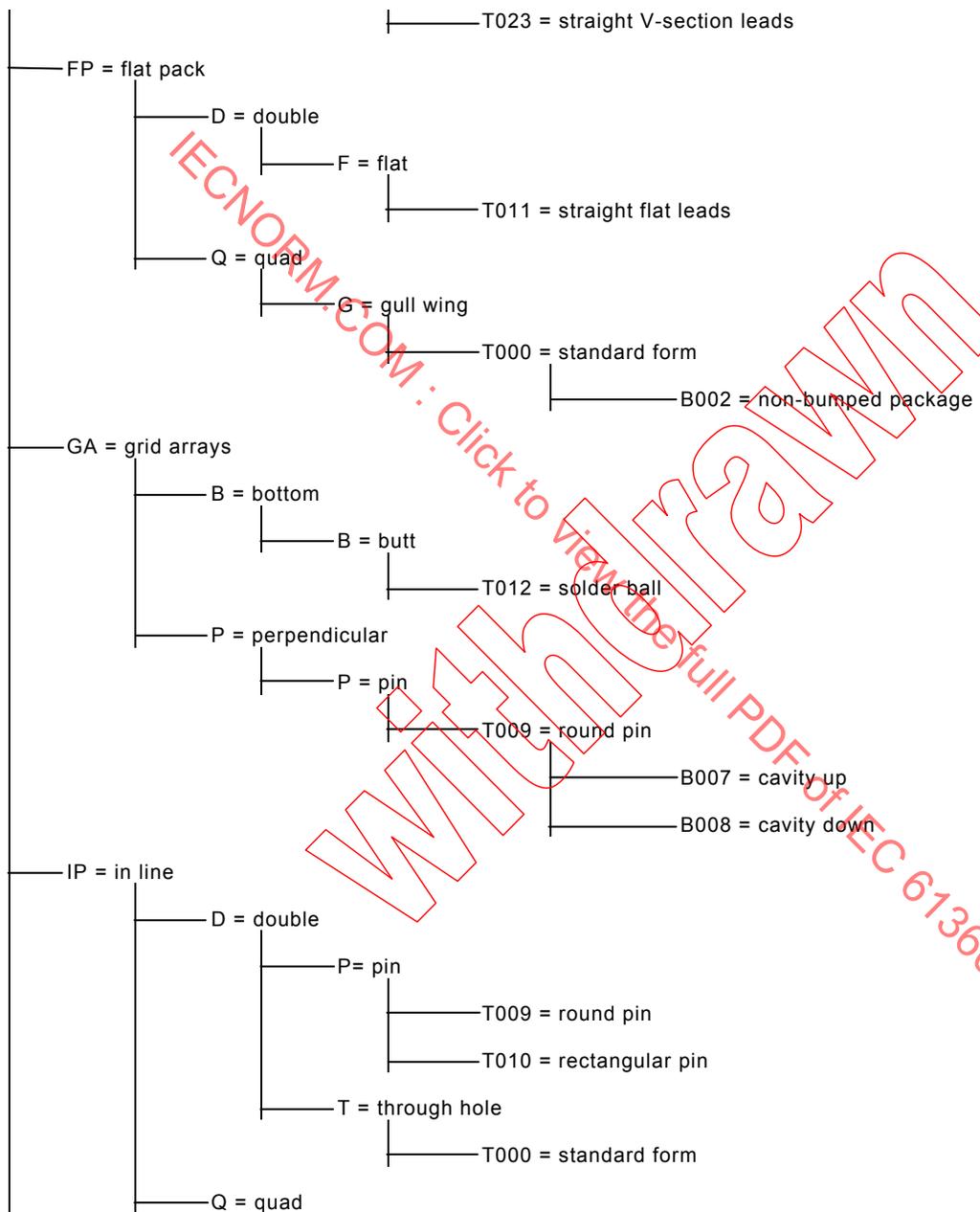
	Class. DET	Class	Drawing
T023 = straight V-section leads	AAG054-001	AAA416-001	
FP = flat pack	AAG057-001	AAA311-001	
D = double	AAG056-001	AAA336-001	
F = flat	AAG058-001	AAA370-001	
T011 = straight flat leads	AAG054-001	AAA417-001	DAA020-001
Q = quad	AAG056-001	AAA337-001	
G = gull wing	AAG058-001	AAA371-001	
T000 = standard form	AAG054-001	AAA418-001	
B002 = non-bumped package	AAG055-001	AAA454-001	DAA049-001
GA = grid arrays	AAG057-001	AAA312-001	
B = bottom	AAG056-001	AAA338-001	
B = butt	AAG058-001	AAA372-001	
T012 = solder ball	AAG054-001	AAA419-001	DAA021-001
P = perpendicular	AAG056-001	AAA339-001	
P = pin	AAG058-001	AAA373-001	
T009 = round pin	AAG054-001	AAA420-001	
B007 = cavity up	AAG055-001	AAA455-001	DAA050-001
B008 = cavity down	AAG055-001	AAA456-001	DAA051-001
IP = in line	AAG057-001	AAA313-001	
D = double	AAG056-001	AAA340-001	
P= pin	AAG058-001	AAA374-001	
T009 = round pin	AAG054-001	AAA421-001	DAA022-001
T010 = rectangular pin	AAG054-001	AAA422-001	DAA023-001
T = through hole	AAG058-001	AAA375-001	
T000 = standard form	AAG054-001	AAA423-001	DAA024-001
Q = quad	AAG056-001	AAA341-001	
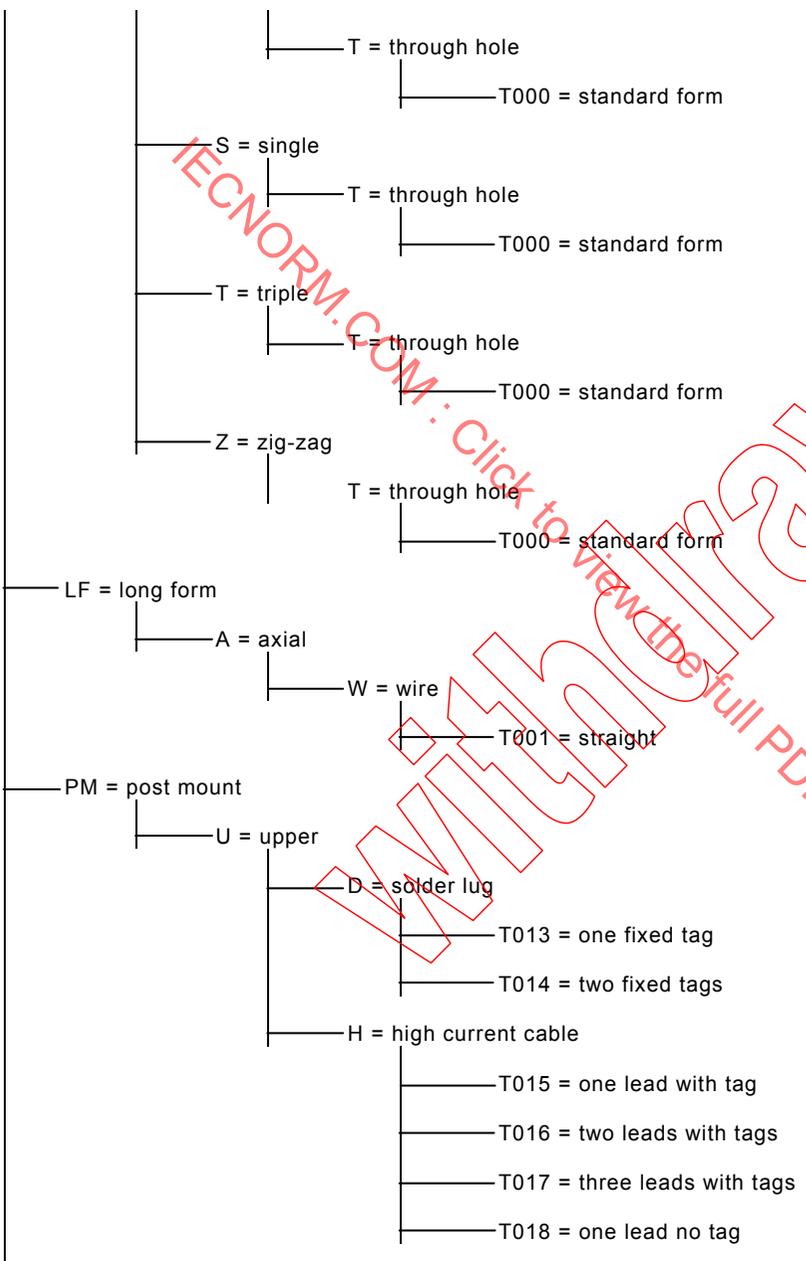
		Class. DET	Class	Drawing
	T = through hole	AAG058-001	AAA376-001	
	T000 = standard form	AAG054-001	AAA424-001	
S = single		AAG056-001	AAA342-001	
	T = through hole	AAG058-001	AAA377-001	
	T000 = standard form	AAG054-001	AAA425-001	
T = triple		AAG056-001	AAA343-001	
	T = through hole	AAG058-001	AAA378-001	
	T000 = standard form	AAG054-001	AAA426-001	
Z = zig-zag		AAG056-001	AAA344-001	
	T = through hole	AAG058-001	AAA379-001	
	T000 = standard form	AAG054-001	AAA427-001	
LF = long form		AAG057-001	AAA314-001	
A = axial		AAG056-001	AAA345-001	
	W = wire	AAG058-001	AAA380-001	
	T001 = straight	AAG054-001	AAA428-001	
PM = post mount		AAG057-001	AAA318-001	
U = upper		AAG056-001	AAA346-001	
D = solder lug		AAG058-001	AAA381-001	
	T013 = one fixed tag	AAG054-001	AAA429-002	DAA025-002
	T014 = two fixed tags	AAG054-001	AAA430-002	DAA026-002
H = high current cable		AAG058-001	AAA382-001	
	T015 = one lead with tag	AAG054-001	AAA431-002	DAA027-002
	T016 = two leads with tags	AAG054-001	AAA432-002	DAA028-002
	T017 = three leads with tags	AAG054-001	AAA433-002	DAA029-002
	T018 = one lead no tag	AAG054-001	AAA434-002	DAA030-002
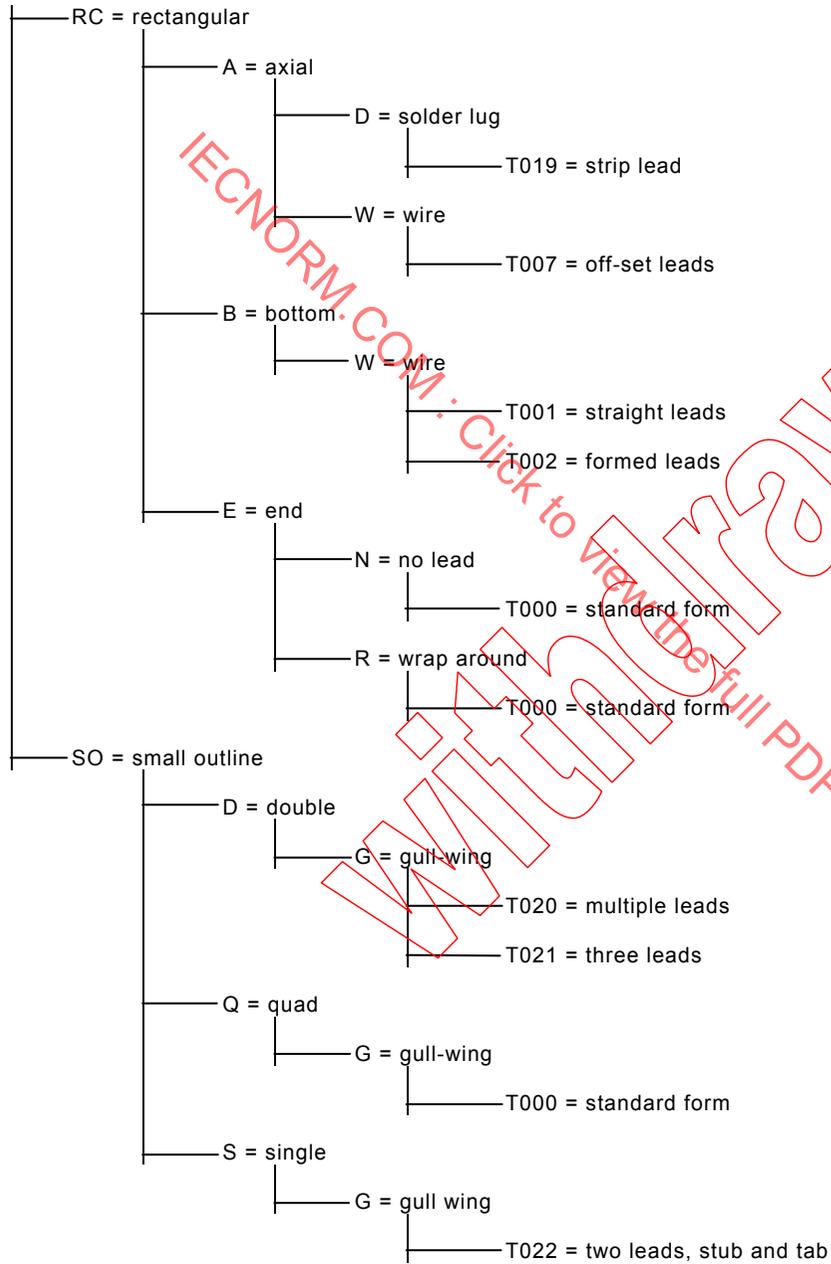
	Class. DET	Class	Drawing
RC = rectangular	AAG057-001	AAA319-001	
A = axial	AAG056-001	AAA347-001	
D = solder lug	AAG058-001	AAA383-001	
T019 = strip lead	AAG054-001	AAA435-001	DAA031-001
W = wire	AAG058-001	AAA384-001	
T007 = off-set leads	AAG054-001	AAA436-001	DAA032-001
B = bottom	AAG056-001	AAA348-001	
W = wire	AAG058-001	AAA385-001	
T001 = straight leads	AAG054-001	AAA437-001	DAA033-001
T002 = formed leads	AAG054-001	AAA438-001	DAA034-001
E = end	AAG056-001	AAA349-001	
N = no lead	AAG058-001	AAA386-001	
T000 = standard form	AAG054-001	AAA439-001	DAA035-001
R = wrap around	AAG058-001	AAA387-001	
T000 = standard form	AAG054-001	AAA440-001	DAA036-001
SO = small outline	AAG057-001	AAA320-001	
D = double	AAG056-001	AAA350-001	
G = gull-wing	AAG058-001	AAA388-001	
T020 = multiple leads	AAG054-001	AAA441-001	DAA037-001
T021 = three leads	AAG054-001	AAA442-001	DAA038-001
Q = quad	AAG056-001	AAA351-001	
G = gull-wing	AAG058-001	AAA389-001	
T000 = standard form	AAG054-001	AAA443-001	
S = single	AAG056-001	AAA352-001	
G = gull wing	AAG058-001	AAA390-001	
T022 = two leads, stub and tab	AAG054-001	AAA444-001	DAA039-001
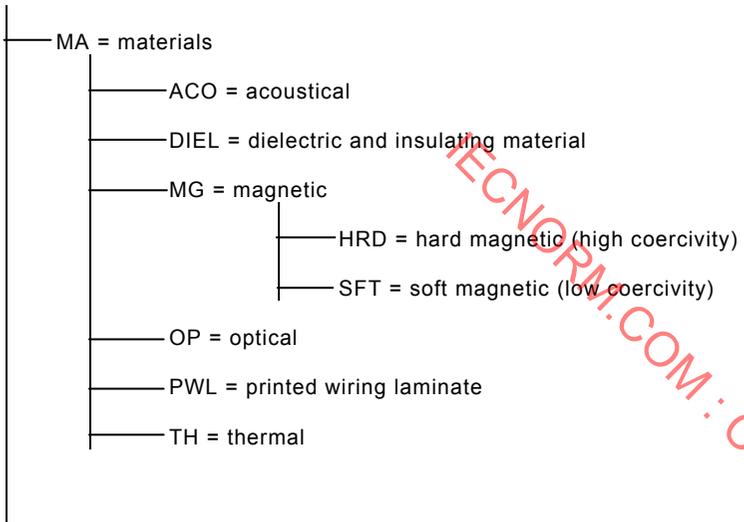
		Class. DET	Class	Drawing
MA = materials		AAE000-001	AAA218-001	
ACO = acoustical		AAF311-007	AAA219-001	
DIEL = dielectric and insulating material		AAF311-007	AAA231-001	
MG = magnetic		AAF311-007	AAA220-001	
	HRD = hard magnetic (high coercivity)	AAE759-005	AAA221-001	
	SFT = soft magnetic (low coercivity)	AAE759-005	AAA222-001	
OP = optical		AAF311-006	AAA223-001	
PWL = printed wiring laminate		AAF311-007	AAA230-001	
TH = thermal		AAF311-007	AAA224-001	

Annex B
(normative)
Class definitions

AAA000-001 01

IEC reference collection   IECREF

Root class providng a name scope for the
characteristic properties in the IEC reference
collection of standard data element types.

NOTE
IEC REFERENCE COLLECTION is a data dictionary
containing a classification with associated sets of
properties for the description of electric/electronic
and electromechanical components and materials.

AAE000-001 IEC reference class

AAA001-001 02

Components   CO

A set of industrial products of which each product
can be described with the same group of data
element types.

NOTE
COMPONENTS are industrial products which serve a
specific function or functions, which are not
decomposable or physically divisible and which are
intended for use in a higher-order assembled
product.

Properties
AAE006-006   mounting features
AAE012-005   international standard
AAE017-005   reference temperature
AAE019-005   body length
AAE020-005   body height
AAE021-005   body breadth
AAE022-005   outside diameter
AAE111-005   packing type
AAE112-005   taping
AAE687-005   quality approval authority
AAE752-005   mass
AAE753-005   inside diameter
AAE834-005   component description
AAE965-005   component status
AAF043-005   national standard
AAF265-005   packing arrangement
AAF267-005   inner tape spacing
AAF268-005   orientation
AAF269-005   marking method
AAF276-002   stress temperature min
AAF277-002   stress temperature max
AAF278-002   stress ambient temperature
AAF279-002   stress relative humidity
AAF318-001   flange breadth
AAF356-001   reference view
AAF357-001   terminal identifier
AAF358-001   swapability indicator
AAF359-001   permutability indicator
AAF362-001   centre of gravity (x-axis)
AAF363-001   centre of gravity (y-axis)

AAF364-001   probability distribution
AAF365-001   normal average value
AAF366-001   normal standard deviation
AAF367-001   Poisson variance value
AAF368-001   Poisson expectation value
AAF369-001   test voltage coefficient
AAF370-001   MIL specification
AAF372-001   preformed lead
AAF388-001   case size
AAF391-001   connect-node code
AAF392-001   project view code
AAF393-001   x-coordinate of the reference point
AAF394-001   y-coordinate of the reference point
AAF395-001   z-coordinate of the reference point
AAF396-001   scale
AAF397-001   net area
AAF398-001   gross area
AAF399-001   net space
AAF400-001   gross space
AAF401-001   x-coor. preferred mounting position
AAF402-001   x-coor. preferred mounting position
AAF403-001   z-coor. preferred mounting position
AAF404-001   mounting deviation y/z
AAF405-001   mounting deviation y/x
AAF406-001   x-coordinate position location
AAF407-001   y-coordinate position location
AAF408-001   z-coordinate position location
AAF409-001   cylinder radius
AAF410-001   cylinder height
AAF411-001   angle axis to x-axis
AAF412-001   angle axis to y-axis
AAF413-001   angle axis to z-axis
AAF414-001   cone radius
AAF415-001   cone height
AAF416-001   semi angle
AAF417-001   sphere radius
AAF418-001   x-coordinate of centre
AAF419-001   y-coordinate of centre
AAF420-001   z-coordinate of centre
AAF421-001   major radius of torus
AAF422-001   minor radius of torus
AAF423-001   wedge x-size
AAF424-001   wedge y-size
AAF425-001   wedge z-size
AAF426-001   major edge
AAF427-001   minor edge
AAF428-001   primitive height
AAF429-001   edge-length
AAF430-001   internal radius
AAF431-001   external radius
AAF432-001   minor radius
AAF433-001   installation instruction
AAF435-001   terminal connection type
AAF436-001   simultaneity factor
AAF437-001   column type

AAE001-005 main class of component

Subclasses
AAA002-003   Electric/electronic components
AAA147-001   Electromechanical components
AAA215-001   Magnetic parts

AAA002-003 01

Electric/electronic components   EE

A set of electric/electronic components of which each component can be described with the same group of data element types.

NOTE
ELECTRIC/ELECTRONIC COMPONENTS are groups of components, as used in the classification to indicate a class of functions with a common set of data elements.

Properties

AAE007-005	terminal shape
AAE008-005	terminal placement
AAE023-005	terminal diameter
AAE024-005	terminal pitch
AAE027-005	mounted height
AAE072-005	terminal length
AAE149-005	safety approval
AAE257-005	power dissipation
AAE259-005	shape/size code BSI
AAE267-005	rated temperature
AAE347-005	CECC specification
AAE540-005	current rms
AAE633-005	lacquered length
AAE634-005	terminal material
AAE688-005	thermal resistance
AAE785-005	signal type
AAE841-005	storage temperature
AAE891-005	ambient temperature
AAE905-005	dissipation derating factor
AAE987-005	power consumption
AAF316-001	hole pitch
AAF317-001	flange length
AAF319-001	flange height
AAF320-001	body diameter
AAF321-001	pitch (x-axis)
AAF322-001	pitch (y-axis)
AAF337-001	pitch circle diameter
AAF338-001	terminal breadth
AAF339-001	terminal thickness
AAF340-001	offset (y-axis)
AAF341-001	offset (x-axis)
AAF342-001	flange diameter
AAF343-001	mounting method
AAF344-001	body shape
AAF345-001	terminal exit position SMD
AAF346-001	terminal exit position non-SMD
AAF347-001	terminal shape non-SMD
AAF348-001	terminal shape SMD
AAF351-001	number of holes
AAF352-001	basic aspect
AAF353-001	size code EIA
AAF371-001	adjuster placement
AAF373-001	number of studs
AAF374-001	number of pitches (x-axis)
AAF375-001	number of pitches (y-axis)
AAF376-001	terminal cross-section shape
AAE002-006	**category EE component**

Subclasses

AAA003-001	Amplifiers
AAA013-001	Antennas
AAA017-001	Batteries
AAA020-001	Capacitors
AAA032-001	Conductors
AAA041-001	Delay lines
AAA042-001	Diode devices
AAA578-001	Fibre optics
AAA056-002	Filters
AAA057-001	Integrated circuits
AAA074-002	Inductors
AAA075-001	Lamps
AAA076-001	Liquid crystal displays
AAA229-001	Microwave components
AAA077-001	Optoelectronic devices
AAA087-001	Oscillators
AAA088-001	Piezoelectric devices
AAA232-001	Printed wiring circuits
AAA089-002	Resistors
AAA596-001	Resonators
AAA103-001	Sensors
AAA595-001	Spark gaps
AAA111-001	Transformers
AAA118-001	Transistors
AAA131-001	Trigger devices
AAA138-001	Tubes
AAA146-001	Tuners

AAA003-001 02

Amplifiers   AMP

A set of amplifiers of which each amplifier can be described with the same group of data element types.

NOTE
AMPLIFIERS are active two-port devices essentially designed to produce an output signal of greater power than that of the input signal. IEC 60050(702) (1992)

Properties

AAE697-005	current consumption
AAE969-005	amplifier package
AAE974-005	input standing wave ratio
AAE975-005	output standing wave ratio

AAF146-005 frequency application

Subclasses

AAA004-001	Low-frequency amplifiers
AAA011-001	Radio frequency amplifiers
AAA012-001	Wideband amplifiers

AAA004-001 02

Low-frequency amplifiers   LF

A set of low-frequency amplifiers of which each amplifier can be described with the same group of data element types.

NOTE
LOW-FREQUENCY AMPLIFIERS are amplifiers designed for use with baseband unmodulated signals, for example audio, video and switching signals.

AAF169-005 amplified quantity

Subclasses
AAA005-001   Power amplifiers
AAA006-001   Voltage amplifiers

AAA005-001 02

Power amplifiers   PWA

A set of power amplifiers of which each amplifier can be described with the same group of data element types.

NOTE
POWER AMPLIFIERS are amplifiers optimized to deliver output power to the load. Normally the voltage gain is insignificant and the power gain is thus mainly due to current gain.

AAA006-001 02

Voltage amplifiers   VTA

A set of voltage amplifiers of which each amplifier can be described with the same group of data element types.

NOTE
VOLTAGE AMPLIFIERS are amplifiers designed primarily to amplify the signal voltage, without supplying appreciable power.

Properties
AAF158-005   output voltage peak-to-peak
AAF159-005   large-signal voltage gain
AAF162-005   slew rate
AAF165-005   output resistance
AAF166-005   unity-gain frequency
AAF167-005   gain bandwidth product
AAF168-005   total response time

AAF191-005 input configuration

Subclasses
AAA007-001   Differential amplifiers
AAA010-001   Single-sided amplifiers

AAA007-001 02

Differential amplifiers   DFA

A set of differential amplifiers of which each amplifier can be described with the same group of data element types.

NOTE
DIFFERENTIAL AMPLIFIERS are amplifiers whose output signal is proportional to the algebraic difference between the voltages applied to their two inputs.

Properties
AAF157-005   common-mode input voltage
AAF160-005   common-mode rejection ratio
AAF163-005   differential input resistance
AAF164-005   common-mode input resistance

AAF192-005 coupling method

Subclasses
AAA008-001   Operational amplifiers
AAA009-001   AC-coupled amplifiers

AAA008-001 02

Operational amplifiers   OPA

A set of operational amplifiers of which each amplifier can be described with the same group of data element types.

NOTE
OPERATIONAL AMPLIFIERS are high-gain differential dc-coupled amplifiers.

Properties
AAF152-005   input offset current
AAF153-005   temp coef input offset current
AAF154-005   average bias current
AAF155-005   input offset voltage
AAF156-005   temp coef input offset voltage
AAF161-005   supply voltage sensitivity
AAF170-005   power supply rejection ratio

AAA009-001 02

AC-coupled amplifiers   ACA

A set of ac-coupled amplifiers of which each amplifier can be described with the same group of data element types.

NOTE
AC-COUPLED AMPLIFIERS are differential ac-coupled amplifiers.

AAA010-001 02

Single-sided amplifiers   SSA

A set of single-sided amplifiers of which each amplifier can be described with the same group of data element types.

NOTE
SINGLE-SIDED AMPLIFIERS are amplifiers of which one input terminal is directly connected to earth.

AAA011-001 02

Radio frequency amplifiers   RF

A set of RF amplifiers of which each amplifier can be described with the same group of data element types.

NOTE
RADIO FREQUENCY AMPLIFIERS are amplifiers designed for use with signals modulated on a radio-frequency carrier. IEC 60050(702) (1992)

AAA012-001 02

Wideband amplifiers   WB

A set of wideband amplifiers of which each amplifier
can be described with the same group of data
element types.

NOTE
WIDEBAND AMPLIFIERS are amplifiers designed for
uniform operation within a broad range of
frequencies, usually accommodating several signal
channels.

Properties
AAE424-005   power gain
AAE698-005   output voltage
AAE699-005   composite triple beat
AAE700-005   2nd-order beat
AAE701-005   input return losses
AAE702-005   output return losses
AAE703-005   cross modulation
AAE705-005   slope cable equivalent
AAE706-005   conformity of frequency response

AAA013-002 02

Antennas   ANT

A set of antennas of which each antenna can be
described with the same set of data element types.

NOTE
ANTENNAS are transducers which either emit radio
frequency power into space from a signal source or
intercepts an arriving electromagnetic field, converting
it into an electric signal. IEC 60747-1 (1983)

Properties
AAE340-005   effective frequency f_e2
AAE341-005   effective frequency f_e1

AAE511-007 impedance type

Subclasses
AAA014-001   Capacitive antennas
AAA015-001   Inductive antennas
AAA016-001   Resistive antennas

AAA014-001 02

Capacitive antennas   CAP

A set of capacitive antennas of which each antenna
can be described with the same group of data
element types.

NOTE
CAPACITIVE ANTENNAS are antennas in which,
under given conditions, the predominant function is
effected by means of capacitance.

Properties
AAE996-005   number of sections
AAE997-005   extended length
AAE998-005   non-extended length

AAA015-001 02

Inductive antennas   IND

A set of inductive antennas of which each antenna
can be described with the same group of data
element types.

NOTE
INDUCTIVE ANTENNAS are antennas in which,
under given conditions, the predominant function is
effected by means of inductance.

Properties
AAE151-005   winding configuration
AAE517-005   inductance
AAE518-005   quality factor

AAA016-001 02

Resistive antennas   RES

A set of resistive antennas of which each antenna
can be described with the same group of data
element types.

NOTE
RESISTIVE ANTENNAS are antennas in which,
under given conditions, the predominant function is
effected by means of resistance.

AAA017-001 02

Batteries   BAT

A set of batteries of which each battery can be
described with the same group of data element
types.

NOTE
BATTERIES are electrochemical energy sources
consisting of one or more cells. (derivation)

Properties
AAE262-005   encapsulation technology
AAE529-005   open-circuit voltage
AAE530-005   nominal capacity
AAE940-005   number of cells in series
AAE942-005   storage life

AAE510-005 chargeability type

Subclasses
AAA018-001   Primary batteries
AAA019-001   Secondary batteries

AAA018-001 02

Primary batteries   PRI

A set of primary batteries of which each battery can
be described with the same group of data element
types.

NOTE
PRIMARY BATTERIES are electrochemical systems
(batteries) designed for delivery of electric energy in
one single uninterrupted (continuous) or interrupted
(intermittent) discharge. IEC 60086-1 (2000)

Properties
AAE531-005 primary electrochemical system

AAA019-001 02

Secondary batteries **SEC**

A set of secondary batteries of which each battery
can be described with the same group of data
element types.

NOTE
SECONDARY BATTERIES are electrochemical
systems (batteries) capable of storing in chemical
form the electric energy received and which can give
it back by reconversion. (derivation) IEC 60050(486)
(1991)

Properties
AAE532-005 secondary electrochemical system
AAE941-005 voltage during charge
AAE943-005 charge time
AAE944-005 number of charge cycles

AAA020-001 02

Capacitors **CAP**

A set of capacitors of which each capacitor can be
described with the same group of data element
types.

NOTE
CAPACITORS are systems of two conductors
(plates) separated over the extent of their surfaces
by a thin insulating medium (dielectric), their
intended characteristic being capacitance.

Properties
AAE010-005 climatic category
AAE030-005 E series
AAE044-005 rated voltage (dc)
AAE065-005 tangent of loss angle
AAE067-005 temperature coefficient (cap)
AAF360-001 max range value
AAF361-001 min range value
AAJ053-001 category voltage
AAJ054-001 surge voltage
AAJ055-001 rated temperature
AAJ056-001 category temperature
AAJ057-001 capacitance change with temperature
AAJ058-001 impedance of a capacitor

AAE003-006 adjustability type

Subclasses
AAA021-003 Fixed capacitors
AAA031-002 Variable capacitors

AAA021-003 01

Fixed capacitors **FIX**

A set of fixed capacitors of which each capacitor can
be described with the same group of data element
types.

NOTE
FIXED CAPACITORS are capacitors that are
designed so that the spatial relationship of their
parts cannot be changed.

Properties
AAE009-005 performance grade
AAE018-001 capacitance lower tolerance (%)
AAE034-005 circuit application (capacitor)
AAE036-005 safety class
AAE046-005 capacitance
AAE047-001 capacitance upper tolerance (%)
AAE063-005 insulation resistance
AAE066-005 time constant (of capacitor)
AAE071-005 capacitance tolerance
AAE262-005 encapsulation technology
AAE268-001 capacitance upper tolerance
AAE269-001 capacitance lower tolerance
AAF462-001 toleranced capacitance
AAJ008-001 size code
AAE004-007 dielectric material type

Subclasses
AAA022-001 Fixed air capacitors
AAA023-001 Fixed ceramic capacitors
AAA026-002 Fixed electrolytic capacitors
AAA027-001 Fixed film capacitors
AAA028-001 Fixed glass capacitors
AAA029-002 Fixed mica capacitors
AAA030-001 Fixed paper capacitors
AAA505-001 Fixed mixed-dielectric capacitors

AAA022-001 02

Fixed air capacitors **AIR**

A set of fixed air capacitors of which each capacitor
can be described with the same group of data
element types.

NOTE
FIXED AIR CAPACITORS are fixed capacitors with a
dielectric consisting of air.

AAA023-001 02

Fixed ceramic capacitors **CER**

A set of fixed ceramic capacitors of which each
capacitor can be described with the same group of
data element types.

NOTE
FIXED CERAMIC CAPACITORS are fixed capacitors
with a dielectric consisting of a ceramic material.

AAE038-005 dielectric class (ceramic cap)

Subclasses
AAA024-001 Fixed class1 ceramic capacitor
AAA025-001 Fixed class2 ceramic capacitor

AAA024-001 02

Fixed class1 ceramic capacitor CL1

A set of fixed ceramic capacitors class1 of which each capacitor can be described with the same group of data element types.

NOTE
FIXED CLASS1 CERAMIC CAPACITORS are ceramic capacitors specially designed and suited for resonant circuit application where low losses and high stability of capacitance are essential or where a precisely defined temperature coefficient is required. The ceramic dielectric is defined by their rated temperature coefficient (alpha). IEC 60384-8 (1988)

Properties
AAE035-005 temperature coefficient code
AAE266-005 dielectric subclass 1

AAA025-001 02

Fixed class2 ceramic capacitor CL2

A set of fixed ceramic capacitors class2 of which each capacitor can be described with the same group of data element types.

NOTE
FIXED CLASS2 CERAMIC CAPACITORS are ceramic capacitors which have a dielectric with a high permittivity and which are suitable for by-pass and coupling applications or for frequency discriminating circuits where low losses and high stability of capacitance are not of major importance. The ceramic dielectric is characterized by the non-linear change of capacitance over the category temperature range. IEC 60384-9 (1988)

Properties
AAE037-005 EIA temperature characteristic
AAE076-005 dielectric subclass 2

AAA026-002 01

Fixed electrolytic capacitors ELC

A set of fixed electrolytic capacitors of which each capacitor can be described with the same group of data element types.

NOTE
FIXED ELECTROLYTIC CAPACITORS are fixed capacitors in which the electrolytically formed oxide layer on the surface of the anode serves as a dielectric and having a solid or non-solid electrolyte forming the cathode, usually having polar properties.

Properties
AAE040-005 electrode material type
AAE041-005 shelf life
AAE042-005 leakage current short-term
AAE043-005 leakage current continuous
AAE064-005 equivalent series resistance
AAE073-005 endurance
AAE263-005 polarity type
AAE960-005 ripple current
AAJ051-001 electrolyte type
AAJ052-001 anode type

AAJ001-001 electrolytic capacitor type

Subclasses
AAA501-001 Solid tantalum
AAA502-001 Non-solid tantalum
AAA503-001 Solid aluminium
AAA504-001 Non-solid aluminium

AAA027-001 02

Fixed film capacitors FLM

A set of fixed film capacitors of which each capacitor can be described with the same group of data element types.

NOTE
FIXED FILM CAPACITORS are fixed capacitors with a dielectric consisting of a plastic film.

Properties
AAE031-005 electrode technology
AAE033-005 voltage application
AAE039-005 film dielectric material
AAE045-005 rated voltage (ac)

AAA028-001 02

Fixed glass capacitors GLS

A set of fixed glass capacitors of which each capacitor can be described with the same group of data element types.

NOTE
FIXED GLASS CAPACITORS are fixed capacitors with a dielectric consisting of glass.

AAA029-002 01

Fixed mica capacitors MICA

A set of fixed mica capacitors of which each capacitor can be described with the same group of data element types.

NOTE
FIXED MICA CAPACITORS are fixed capacitors with a dielectric consisting of mica.

AAA030-001 02

Fixed paper capacitors   **PAP**

A set of fixed paper capacitors of which each capacitor can be described with the same group of data element types.

NOTE
FIXED PAPER CAPACITORS are fixed capacitors with a dielectric consisting of paper, usually impregnated.

AAA031-002 01

Variable capacitors   **VAR**

A set of variable capacitors of which each capacitor can be described with the same group of data element types.

NOTE
VARIABLE CAPACITORS are capacitors designed so that their main property can be varied by mechanically changing the spatial relationship of their parts.

Properties
AAE068-005   maximum capacitance
AAE069-005   minimum capacitance
AAE070-005   adjustability class
AAE106-005   number of functions
AAE172-005   ganging number
AAF014-005   driving feature
AAJ002-001   variable capacitor type

AAA032-001 02

Conductors   **CND**

A set of conductors of which each conductor can be described with the same group of data element types.

NOTE
CONDUCTORS are components containing one or more electric conductors.

Properties
AAF240-005   conductor finish
AAF241-005   conductive material
AAF242-006   conductor shape
AAF243-005   conductor configuration
AAF244-005   conductor size AWG
AAF245-005   dc resistance
AAF246-005   conductor diameter
AAF247-005   cross-section
AAF434-001   bending radius

AAF239-005 bare/insulated

Subclasses
AAA033-001   Bare conductors
AAA034-001   Insulated conductors

AAA033-001 02

Bare conductors   **BAR**

A set of bare conductors of which each conductor can be described with the same group of data element types.

NOTE
BARE CONDUCTORS are conductors consisting of a single uninsulated conductive part.

AAA034-001 02

Insulated conductors   **INS**

A set of insulated conductors of which each conductor can be described with the same group of data element types.

NOTE
INSULATED CONDUCTORS are conductors containing one or more insulated conductive parts.

Properties
AAF248-005   insulating material
AAF251-005   test voltage minimum

AAF249-005 cable/wire

Subclasses
AAA035-001   Cables
AAA040-001   Insulated wires

AAA035-001 02

Cables   **CBL**

A set of cables of which each cable can be described with the same group of data element types.

NOTE
CABLES (electric) are an assembly of conductors insulated from one another and enclosed in a common binding or sheathing, and having some degree of flexibility.

Properties
AAF252-005   MIL cable type
AAF254-005   cable configuration
AAF255-005   number of cable elements
AAF258-005   working voltage
AAF259-005   capacitance between conductors

AAE152-005 power/signal

Subclasses
AAA036-001   Power cables
AAA037-001   Signal cables

AAA036-001 02

Power cables   **POW**

A set of power cables of which each cable can be
described with the same group of data element
types.

NOTE
POWER CABLES are cables designed for the
purpose of handling energy.

AAA037-001 02

Signal cables   **SIG**

A set of signal cables of which each cable can be
described with the same group of data element
types.

NOTE
SIGNAL CABLES are cables designed for the
purpose of handling a signal.

AAF146-005 frequency application

Subclasses
AAA038-001   LF cables
AAA039-001   RF cables

AAA038-001 02

LF cables   **LF**

A set of low-frequency cables of which each cable
can be described with the same group of data
element types.

NOTE
LF CABLES are cables designed for use with
baseband unmodulated signals, for example audio,
video and switching signals.

Properties
AAF253-005   LF cable element

AAA039-001 02

RF cables   **RF**

A set of RF cables of which each cable can be
described with the same group of data element
types.

NOTE
RF CABLES are cables designed for use with signals
modulated on a radio-frequency carrier.

Properties
AAF256-005   RF cable element
AAF257-005   dielectric construction
AAF260-005   characteristic impedance
AAF261-005   attenuation

AAA040-001 02

Insulated wires   **IWR**

A set of insulated wires of which each wire can be
described with the same group of data element
types.

NOTE
INSULATED wires are conductors consisting of a
single insulated conductive part.

Properties
AAF250-005   colour code
AAF262-005   wire application

AAA041-001 02

Delay lines   **DEL**

A set of delay lines of which each delay line can be
described with the same group of data element
types.

NOTE
DELAY LINES are linear two-port devices designed
to introduce a desired delay in the transmission of a
signal, without modifying the other characteristics of
the signal.

Properties
AAE442-005   colour TV transmission
AAE534-005   bandwidth
AAE541-005   frequency
AAE542-005   delay line application
AAE543-005   delay time
AAE544-005   phase delay time
AAE877-005   working principle
AAE878-006   delay line type
AAE879-005   spurious signal level (3-tau)
AAE880-005   spurious signal level
AAE885-005   phase relation
AAE886-005   phase delay drift
AAE887-005   insertion loss

AAA042-001 02

Diode devices   **DID**

A set of diode devices of which each device can be
described with the same group of data element
types.

NOTE
DIODE DEVICES are components built up of one or
more two-terminal semiconductor devices and which
can contain also resistors and/or capacitors.

Properties
AAF275-002   junction stress temperature

AAF305-005 category of diode device

Subclasses
AAA043-001   Bridge rectifiers
AAA044-001   Diodes
AAA055-001   Voltage multipliers

AAA043-001 02

Bridge rectifiers   **BRI**

A set of bridge rectifiers of which each bridge rectifier can be described with the same group of data element types.

NOTE
BRIDGE RECTIFIERS are full-wave rectifiers with four elements connected as a bridge circuit with dc voltage obtained from one pair of opposite junctions when alternating current is applied to the other pair.

Properties
AAE284-005	peak inrush current limit
AAE285-005	non-rep peak input current limit
AAE286-005	average output current
AAE287-005	repetitive peak output current
AAE290-005	repetitive peak input voltage
AAE291-005	rms input voltage
AAE292-005	crest working input voltage

AAA044-002 02

Diodes   **DIO**

A set of diodes of which each diode can be described with the same group of data element types.

NOTE
DIODES are two-terminal semiconductor devices having an asymmetric voltage-current characteristic.

Properties
AAE276-005	reverse current
AAE277-005	reverse voltage
AAE279-005	forward voltage
AAE331-005	diode package
AAE337-005	junction temperature
AAE489-005	diode technology
AAE494-005	nearest conventional type
AAE496-005	diode capacitance
AAE546-005	forward current limit

AAE273-007 diode application

Subclasses
AAA045-001	Breakover diodes
AAA046-001	Rectifier diodes
AAA047-001	Signal diodes
AAA048-001	Stabilizer diodes
AAA054-001	Variable capacitance diodes

AAA045-001 02

Breakover diodes   **BOD**

A set of breakover diodes of which each diode can be described with the same set of data element types.

NOTE
BREAKOVER DIODES are two-terminal semiconductor devices that operate in either an OFF (non-conducting) state or an ON (conducting) state, reaching the conducting state when a voltage of specified minimum value (breakover voltage) is applied across their terminals and then conducting with a low ON-state voltage until the current is reduced below the minimum holding current.

Properties
AAE488-005	diode configuration

AAA046-001 02

Rectifier diodes   **REC**

A set of rectifier diodes of which each diode can be described with the same group of data element types.

NOTE
RECTIFIER DIODES are semiconductor diodes designed for rectification and including their associated mounting and cooling attachments if integral with them.

Properties
AAE281-005	reverse recovery time
AAE293-005	repetitive peak forward current
AAE294-005	non-repetitive peak forward current
AAE296-005	working peak forward current
AAE297-005	repetitive peak reverse current
AAE299-005	crest working reverse voltage
AAE301-005	non-repetitive peak reverse voltage
AAE302-005	repetitive peak reverse power
AAE303-006	non-rep peak reverse power diss
AAE304-005	non-rep peak rev avalanche energy
AAE305-005	Joule-integral
AAE306-005	total reverse recovery time
AAE336-005	mounting base temperature
AAE488-005	diode configuration
AAE503-005	EHT stack application
AAE505-005	rectifier diode application
AAE966-005	average forward current
AAF301-005	reverse recovery time (I)
AAF302-005	breakdown voltage

AAA047-001 02

Signal diodes   **SIGD**

A set of signal diodes of which each diode can be described with the same group of data element types.

NOTE
SIGNAL DIODES are diodes used for the purpose of extracting or processing information contained in an electrical signal which varies with time and may be either analogue or digital.

Properties
AAE281-005	reverse recovery time
AAE293-005	repetitive peak forward current
AAE294-005	non-repetitive peak forward current
AAE300-005	repetitive peak reverse voltage
AAE301-005	non-repetitive peak reverse voltage
AAE302-005	repetitive peak reverse power
AAE303-006	non-rep peak reverse power diss
AAE310-005	diode forward resistance

AAE487-005   frequency band
AAE488-005   diode configuration
AAE490-005   modulation method
AAE966-005   average forward current
AAF301-005   reverse recovery time (I)

AAE323-005   differential resistance
AAE324-005   working voltage

AAA048-001 02

Stabilizer diodes   STB

A set of stabilizing diodes of which each diode can
be described with the same group of data element
types.

NOTE
STABILIZER DIODES are diodes exhibiting a
breakdown caused by the transition of electrons from
the valence band to the conduction band due to
tunnel action under the influence of a strong electric
field in the reverse direction. IEC 60050-521 (2002)

Properties
AAE318-005   non-repetitive peak reverse current
AAE327-006   non-rep peak reverse power diss
AAF389-001   non-rep peak reverse power diss

AAE312-005 diode function

Subclasses
AAA049-001   Current regulator diodes
AAA050-001   Voltage reference diodes
AAA051-001   Voltage regulator diodes
AAA052-001   Stabistor diodes
AAA053-001   Transient suppressor diodes

AAA049-001 02

Current regulator diodes   CUR

A set of current regular diodes of which each diode
can be described with the same group of data
element types.

NOTE
CURRENT REGULATOR DIODES are diodes that
limit current to an essentially constant value over a
specified voltage range.

AAA050-001 02

Voltage reference diodes   REF

A set of voltage reference diodes of which each
diode can be described with the same group of data
element types.

NOTE
VOLTAGE REFERENCE DIODES are diodes which
develop a reference voltage of specified accuracy
across their terminals, when biased to operate within
a specified current range. IEC 60747-1 (1983)

Properties
AAE316-005   working current
AAE317-005   peak working current
AAE322-005   temperature coefficient S_Z

AAA051-001 02

Voltage regulator diodes   REG

A set of voltage regulator diodes of which each diode
can be described with the same group of data
element types.

NOTE
VOLTAGE REGULATOR DIODES are diodes which
develop an essential constant voltage across their
terminals throughout a specified current range. IEC
60747-1 (1983)

Properties
AAE316-005   working current
AAE317-005   peak working current
AAE322-005   temperature coefficient S_Z
AAE324-005   working voltage
AAE328-005   differential resistance

AAA052-001 02

Stabistor diodes   STA

A set of stabistor diodes of which each diode can be
described with the same group of data element types.

NOTE
STABISTOR DIODES are diodes having closely
controlled conductance, controlled storage charge,
and low leakage, as required for clippers, clamping
circuits, bias regulators, and other logic circuits that
require tight voltage-level tolerance.

Properties
AAE293-005   repetitive peak forward current
AAE300-005   repetitive peak reverse voltage
AAE328-005   differential resistance
AAE329-005   temperature coefficient S_F

AAA053-001 02

Transient suppressor diodes   SUP

A set of transient suppressor diodes of which each
diode can be described with the same group of data
element types.

NOTE
TRANSIENT SUPPRESSOR DIODES are diodes
utilizing the steep slope of the blocking current-
voltage characteristics of selenium plates for
limiting transient overvoltages. Suppressors may be
of two types: a Polarized: Selenium transient
overvoltage suppressor having an asymmetrical
current-voltage characteristic; Non-polarized:
Selenium transient overvoltage suppressor having a
symmetrical current-voltage characteristic.

Properties
AAE313-005   clamping voltage
AAE316-005   working current

AAA054-001 02

Variable capacitance diodes **VARD**

A set of variable capacitor diodes of which each
diode can be described with the same group of data
element types.

NOTE
VARIABLE CAPACITANCE DIODES are diodes that
are designed so that their capacitance can be varied
by changing the voltage between their terminals.

Properties
AAE310-005 diode forward resistance
AAE311-005 diode reverse resistance
AAE487-005 frequency band
AAE488-005 diode configuration
AAE490-005 modulation method
AAE502-005 capacitance ratio
AAF303-005 diode upper capacitance
AAF304-005 diode lower capacitance

AAA055-001 02

Voltage multipliers **VMP**

A set of voltage multipliers of which each multiplier
can be described with the same group of data
element types.

NOTE
VOLTAGE MULTIPLIERS are rectifier circuits
capable of supplying a dc output voltage that is
greater than (generally two or more times) the peak
value of the ac input voltage.

Properties
AAE282-005 output current EHT supply
AAE283-005 output current focus supply
AAE288-005 input voltage peak-to-peak
AAE289-005 output voltage EHT supply
AAE290-005 repetitive peak input voltage

AAA056-002 01

Filters **FIL**

A set of filters of which each filter can be described
with the same group of data element types.

NOTE
FILTERS ARE linear two-port devices designed to
transmit spectral components of signals according to
a specified law, generally in order to pass the
components in certain frequency bands and to
attenuate those in other bands. IEC 60050(702)
(1992)

Properties
AAE527-005 centre frequency
AAE533-005 input impedance
AAE534-005 bandwidth
AAE543-005 delay time
AAE888-005 spurious signal level (2-tau)
AAF044-005 output impedance

AAF119-005 frequency application
AAF120-005 comb depth
AAF121-005 pass-band attenuation
AAJ059-001 filter type

AAA057-001 02

Integrated circuits **IC**

A set of integrated circuits of which each integrated
circuit can be described with the same group of data
element types.

NOTE
INTEGRATED CIRCUITS are circuits in which all or
some of the circuit elements are inseparably
associated and electrically interconnected so that
they are considered to be indivisible for the purpose
of construction and commerce. IEC 60748-1 (2002)

Properties
AAE074-005 IC application field
AAE086-005 supply voltage limit
AAE106-005 number of functions
AAE210-005 input voltage limit
AAE214-005 power dissipation per output
AAE336-005 mounting base temperature
AAE337-005 junction temperature
AAE442-005 colour TV transmission
AAE458-005 number of inputs
AAE487-005 frequency band
AAE490-005 modulation method
AAE686-005 IC technology
AAE690-005 supply voltage
AAE691-005 supply current
AAE786-005 mode of operation
AAE838-005 IC package code
AAE898-005 input capacitance
AAF275-002 junction stress temperature

AAE077-005 signal type

Subclasses
AAA058-001 Analogue signal functions
AAA059-001 Digital signal functions
AAA072-001 Analogue/digital signal functi
AAA073-001 Periodic/dc functions

AAA058-001 02

Analogue signal functions **ANA**

A set of analoque signal function ICs of which each
function can be described with the same group of
data element types.

NOTE
ANALOGUE SIGNAL FUNCTIONS are functions
designed to carry out operations on analogue
signals.

Properties
AAE084-005 analogue function

AAA059-001 02

Digital signal functions   DIG

A set of digital signal function ICs of which each
function can be described with the same group of
data element types.

NOTE
DIGITAL SIGNAL FUNCTIONS are functions
designed to carry out operations on digital signals.

Properties
AAE092-005 HIGH-state output voltage
AAE093-005 HIGH-state output voltage ref
AAE094-005 LOW-state output voltage ref
AAE097-005 LOW-state output voltage
AAE217-005 input current limit
AAE218-005 output current limit
AAE223-005 input leakage current
AAE235-005 output fall time
AAE238-005 output rise time
AAE239-005 HIGH off-state output current
AAE240-005 LOW off-state output current
AAE254-005 LOW-state output current
AAE255-005 HIGH-state output current
AAE457-005 numeral system
AAE459-005 word size
AAE464-005 mode of control
AAE718-005 HIGH-state input voltage
AAE719-005 LOW-state input voltage
AAE787-005 input/output characteristic
AAE896-005 quiescent current
AAE897-005 additional quiescent current
AAE899-005 HIGH-state input current
AAE900-005 LOW-state input current
AAE901-005 HIGH-state supply current
AAE902-005 LOW-state supply current
AAE903-005 off-state supply current
AAF207-005 output short-circuit current
AAF323-005 interface compatibility

AAE085-005 digital function

Subclasses
AAA060-001 Combinational/sequential/interface
AAA061-001 Microcontrollers
AAA062-001 Microprocessors
AAA063-001 Programmable logic devices
AAA064-001 Storage functions

AAA060-001 03

Combinational/sequential/interface CSI

A set of combinatorial/sequential/interface function
ICs of which each function can be described with the
same group of data element types.

NOTE
COMBINATIONAL/SEQUENTIAL/INTERFACE is an
abbreviated term for combinatorial, sequential and
interface, as used in the classification to indicate a
class of functions with a common set of data element
types.

Properties
AAE231-005 propagation delay

AAE233-005 HIGH to LOW propagation time
AAE237-005 LOW to HIGH propagation time
AAE692-005 standby current disabled
AAE693-005 standby current enabled
AAE790-005 CSI functions
AAF208-005 positive-going threshold
AAF209-005 negative-going threshold
AAF210-005 hysteresis
AAF211-005 maximum clock frequency
AAF212-005 set-up time
AAF213-005 hold time
AAF214-005 output enable time
AAF215-005 output disable time
AAF216-005 pulse width HIGH
AAF217-005 pulse width LOW
AAF218-005 metastable window
AAF219-005 recovery time

AAA061-001 02

Microcontrollers   MUC

A set of microcontrollers of which each
microcontroller can be described with the same
group of data element types.

NOTE
MICROCONTROLLERS are controllers whose
elements have been miniaturized into an IC. They
are generally dedicated to a single application,
mainly real time control.

Properties
AAF223-005 machine cycle
AAF224-005 clock frequency
AAF225-005 internal clock frequency
AAF226-005 address bus width
AAF227-005 data bus width
AAF228-005 addressable storage size
AAF229-005 instruction rate
AAF230-005 number of internal registers
AAF324-005 instruction set
AAF325-005 interrupt type
AAF326-005 addressing mode
AAF327-005 on-chip memory
AAF328-005 I/O bus width
AAF329-005 number of peripherals
AAF330-005 peripheral word size

AAA062-001 02

Microprocessors   MUP

A set of microprocessors of which each
microprocessor can be described with the same
group of data element types.

NOTE
MICROPROCESSORS are processors whose
elements have been miniaturized into an IC.

Properties
AAF221-005 bus structure
AAF222-005 instruction set architecture
AAF223-005 machine cycle
AAF224-005 clock frequency
AAF225-005 internal clock frequency

AAF226-005   address bus width
AAF227-005   data bus width
AAF228-005   addressable storage size
AAF229-005   instruction rate
AAF230-005   number of internal registers
AAF324-005   instruction set
AAF325-005   interrupt type
AAF326-005   addressing mode
AAF328-005   I/O bus width

AAA063-001 02

Programmable logic devices   PLD

A set of programmable logic devices of which each
device can be described with the same group of data
element types.

NOTE
PROGRAMMABLE LOGIC DEVICES are device
consisting of a programmable AND array whose
output terms are fed to a fixed or programmable. (a
PLD may also include registers)

Properties
AAF231-005   PLD programmability

AAA064-002 02

Storage functions   STO

A set of storage functions of which each function can
be described with the same group of data element
types.

NOTE
STORAGE FUNCTIONS are functional units in which
data (information) can be placed, in which they can
be retained and from which they can be retrieved.
ISO 2382-11 (1987)

Properties
AAE474-005   storage size
AAE720-005   access time
AAF232-005   output data-valid time
AAJ098-001   address set-up time
AAJ099-001   address hold time
AAJ100-001   input set-up time
AAJ101-001   input hold time
AAJ102-001   clockset-up time
AAJ103-001   clock hold time
AAJ104-001   output hold time
AAJ105-001   transition time

AAE722-007 storage function

Subclasses
AAA065-001   Content addressable memory ICs
AAA066-001   Charge coupled device ICs
AAA067-001   Random access memory ICs
AAA070-001   Read only memory ICs
AAA071-001   Registers

AAA065-001 02

Content addressable memory ICs   CAM

A set of content addressable memory ICs of which
each memory can be described with the same group
of data element types.

NOTE
CONTENT ADDRESSABLE MEMORY are memories
that respond with all the data in a storage zone if a
portion of that data matches the data used for
addressing the memory. If a match could occur in
more than one storage zone, then usually the data
read out will be that contained in the storage zone
having the lowest address value.

AAA066-001 02

Charge coupled device ICs   CCD

A set of charge coupled device ICs of which each
charge coupled device can be described with the
same group of data element types.

NOTE
CHARGE COUPLED DEVICE ICs are charge-
transfer devices that store charge in potential wells
and transfers this charge almost completely as a
packet by translating the position of the potential
wells. This device operates by changing the position
of the same packet of charge.

AAA067-001 02

Random access memory ICs   RAM

A set of random access memory ICs of which each
memory can be described with the same group of
data element types.

NOTE
RANDOM ACCESS MEMORY ICs are memories that
permit access to any of their address locations in
any desired sequence.

AAF233-005   RAM type

Subclasses
AAA068-001   Dynamic ram ICs
AAA069-001   Static ram ICs

AAA068-001 02

Dynamic RAM ICs   DRM

A set of dynamic RAM ICs of which each IC can be
described with the same group of data element types.

NOTE
DYNAMIC RAM ICs are memories in which the cells
(elements) require the repetitive application of
control signals in order to retain the data stored. A
dynamic memory may use dynamic addressing
and/or sensing circuits. This definition applies
whether or not the control signals are generated
inside or outside the memory.

Properties
AAE721-005   access time from CAS
AAF331-006   refresh time interval
AAJ091-001   access time from address
AAJ092-001   access time from clock
AAJ093-001   burst-mode cycle time
AAJ094-001   random read/write cycle time
AAJ095-001   access time from RAS
AAJ096-001   clock frequency

AAA069-001 02

Static RAM ICs   **SRM**

A set of static RAM ICs of which each IC can be described with the same group of data element types.

NOTE
STATIC RAM ICs are memories in which the data content is retained in the absence of control signals. A static memory may use dynamic addressing and/or sensing circuits.

Properties
AAF332-005   data retention current
AAF333-005   data retention voltage
AAF336-005   standby current chip disabled

AAA070-001 03

Read only memory ICs   **ROM**

A set of read only memory ICs of which each memory can be described with the same group of data element types.

NOTE
READ ONLY MEMORY ICs are memories in which the content is intended to be read only and not to be altered during normal operation.

Properties
AAF235-005   virginity state
AAF236-005   ROM programmability
AAF237-005   programming current
AAF238-005   programming voltage

AAA071-001 02

Registers   **REGI**

A set of registers of which each register can be described with the same group of data element types.

NOTE
REGISTERS are one-dimensional arrangements of bistable circuits by means of which information may be accepted, stored, and retrieved. (derivation)

Properties
AAF211-005   maximum clock frequency
AAF234-005   register type

AAA072-001 03

Analogue/digital signal functions   AD

A set of analoque/digital signal function ICs of which each function can be described with the same group of data element types.

NOTE
ANALOGUE / DIGITAL SIGNAL FUNCTIONS indicate functions which involve analogue signals as well as digital signals.

Properties
AAE788-005   AD function

AAA073-001 02

Periodic/dc functions   **PER**

A set of periodic/dc functions of which each function can be described with the same group of data element types.

NOTE
PERIODIC / DC FUNCTIONS indicate either periodic signals : signals f(x) of a real or complex variable with period T if f(x+T)=f(x) for every value of x; or dc signals : signals whose electric current flows in one direction only, as opposed to alternating current signal.

Properties
AAE789-005   periodic/dc function

AAA074-002 01

Inductors   **IND**

A set of inductors of which each inductor can be described with the same group of data element types.

NOTE
INDUCTORS are devices consisting of one or more associated windings, with or without a magnetic core, for introducing inductance into an electric circuit.

Properties
AAE262-005   encapsulation technology
AAE517-005   inductance
AAE518-005   quality factor
AAE755-005   impedance
AAE756-005   impedance decrease
AAE758-005   frequency at Z_max
AAF052-005   resonance frequency
AAF090-005   dc resistance
AAF103-005   current dc
AAF151-005   adjustability type
AAJ076-001   inductance tolerance (%)
AAJ077-001   inductance tolerance

AAE003-006 adjustability type

Subclasses
AAA601-001 Fixed inductors
AAA602-001 Variable inductors

AAA075-001 02

Lamps   **LAM**

A set of lamps of which each lamp can be described with the same group of data element types.

NOTE
LAMPS are sources made in order to produce an optical radiation, usually visible.

Properties
AAE519-005 nominal voltage
AAE521-005 nominal current
AAE522-005 mounting-cap code

AAA076-001 02

Liquid crystal displays   **LCD**

A set of liquid crystal displays of which each display can be described with the same group of data element types.

NOTE
LIQUID CRYSTAL DISPLAYS are displays made of material whose reflectance or transmittance changes when an electric field is applied.

Properties
AAE839-005 driving method
AAE840-005 quality grade
AAE843-005 dc voltage component
AAE844-005 drive frequency
AAE845-005 specific current consumption
AAE846-005 turn-on time
AAE847-005 turn-off time
AAE848-005 contrast ratio
AAE849-005 display construction
AAE850-005 character length
AAE851-005 character height
AAE852-005 dot length
AAE853-005 dot height
AAE854-005 viewing area length
AAE855-005 viewing area height
AAE856-005 illumination mode
AAE984-005 digit height
AAE985-005 connection method
AAE986-005 dot spacing
AAE989-005 backlight
AAE990-005 specific capacitance
AAE991-005 preferred viewing direction
AAE992-005 operating voltage
AAF145-005 digit length

AAA077-001 02

Optoelectronic devices   **OPT**

A set of optoelectronic devices of which each device can be described with the same group of data element types.

NOTE
OPTOELECTRONIC DEVICES are semiconductor devices that emit or detect or that are responsive to coherent or non-coherent optical radiation or that utilise such radiation for their internal purposes.

Properties
AAE276-005 reverse current
AAE277-005 reverse voltage
AAE279-005 forward voltage
AAE336-005 mounting base temperature
AAE337-005 junction temperature
AAE405-005 collector current (dc) max
AAE496-005 diode capacitance
AAE546-005 forward current limit
AAE816-005 optoelectronic package

AAE545-006 optoelectronic device function

Subclasses
AAA078-001 Photocouplers
AAA079-001 Photoemitters
AAA083-001 Photosensors
AAA597-001 Image pickup devices

AAA078-001 02

Photocouplers   **PHC**

A set of photocouplers of which each photocoupler can be described with the same group of data element types.

NOTE
PHOTOCOUPLERS are semiconductor optoelectronic devices designed for the transfer of electric signals by utilizing radiant energy to provide coupling with electrical isolation between the input and the output.

Properties
AAE548-005 current transfer ratio
AAE550-005 isolation voltage min
AAE551-005 collector-emitter sat voltage
AAE553-005 turn-off time
AAE554-005 turn-on time
AAF066-005 collector-emitter breakdown voltage
AAF140-005 collector current light
AAF141-005 cut-off current dark I_CEO
AAF142-005 cut-off current dark I_CBO

AAA079-001 02

Photoemitters   **PHE**

A set of photoemitters of which each photoemitter can be described with the same group of data element types.

NOTE
PHOTOEMITTERS are semiconductor optoelectronic devices that directly convert electric energy into optical radiant energy.

Properties
AAE556-005 wavelength at peak emission
AAE557-005 spectral bandwidth
AAE558-005 beamwidth between 50 % values
AAE563-005 LED crystal material

AAE555-005 photoemitter function

Subclasses
AAA080-001 Light emitting diodes
AAA081-001 Infrared light emitting diodes
AAA082-001 Lasers

AAA080-001 02

Light emitting diodes   LED

A set of light emitting diodes of which each diode can be described with the same group of data element types.

NOTE
LIGHT EMITTING DIODES are semiconductor diodes, other than semiconductor lasers, capable of emitting visible radiation when excited by an electric current.

Properties
AAE560-005 package colour
AAE562-005 luminous intensity class
AAE564-005 LED light colour
AAE565-005 luminous intensity

AAA081-001 02

Infrared light emitting diodes   IRD

A set of infrared light emitting diodes of which each emitting diode can be described with the same group of data element types.

NOTE
INFRARED LIGHT EMITTING DIODES are semiconductor diodes, other than semiconductor lasers, capable of emitting infrared radiation when excited by an electric current.

Properties
AAE560-005 package colour
AAE564-005 LED light colour
AAF064-005 radiant intensity
AAF065-005 total radiant output power

AAA082-001 02

Lasers   LAS

A set of lasers of which each laser can be described with the same group of data element types.

NOTE
LASERS are semiconductor diodes that emit coherent optical radiation through stimulated emission resulting from the recombination of free electrons and holes when excited by an electric

current that exceeds the threshold current of the diode.

Properties
AAE561-005 radiant output power

AAA083-001 02

Photosensors   PHS

A set of photosensors of which each photosensor can be described with the same group of data element types.

NOTE
PHOTOSENSORS are semiconductor devices that utilise the photoelectric effect for detection of optical radiation.

Properties
AAE557-005 spectral bandwidth
AAE558-005 beamwidth between 50 % values
AAE567-005 spectral sensitivity
AAE568-005 wavelength at peak response
AAF138-005 collector current light
AAF139-005 collector cut-off current dark
AAF143-005 reverse current light
AAF144-005 reverse current dark

AAE566-005 radiation type

Subclasses
AAA084-001 Infrared light photosensors
AAA085-001 Ultraviolet light photosensors
AAA086-001 Visible light photosensors

AAA084-001 02

Infrared light photosensors   IR

A set of infrared light photosensors of which each sensor can be described with the same group of data element types.

NOTE
INFRARED LIGHT PHOTOSENSORS are photosensors operating with an optical radiation for which the wavelengths are longer than those for visible radiation.

Properties
AAE571-005 responsivity
AAE572-005 equivalent noise irradiation
AAE573-005 spectral response lower limit
AAE574-005 spectral response upper limit
AAE575-005 element separation
AAE576-005 element length
AAE577-005 element breadth

AAA085-001 02

Ultraviolet light photosensors   UV

A set of ultraviolet light sensors of which each sensor can be described with the same group of data element types.

NOTE
ULTRAVIOLET LIGHT PHOTOSENSORS are photosensors operating with an optical radiation for which the wavelengths are shorter than those for visible radiation.

AAA086-001 02

Visible light photosensors   VIS

A set of visible light photosensors of which each photosensor can be described with the same group of data element types.

NOTE
VISIBLE LIGHT PHOTOSENSORS are photosensors operating with any optical radiation capable of causing a visual sensation directly.

AAA087-001 02

Oscillators   OSC

A set of oscillators of which each oscillator can be described with the same group of data element types.

NOTE
OSCILLATORS are active devices producing a periodic quantity whose fundamental frequency is determined by the characteristics of the device.

AAA088-001 02

Piezoelectric devices   PE

A set of piezoelectric devices of which each device can be described with the same group of data element types.

NOTE
PIEZOELECTRIC DEVICES are components that operate by the piezoelectric effect, i.e. electric polarisation caused by mechanical strain or conversely. (derivation)

AAA089-002 02

Resistors   RES

A set of resistors of which each resistor can be described with the same group of data element types.

NOTE
RESISTORS are devices used because of their primary property of resistance.

Properties
AAE010-005   climatic category
AAE030-005   E series
AAE118-005   limiting element voltage (dc)
AAE635-001   resistor package
AAF097-005   stability after test
AAF100-005   resistance tolerance
AAF281-005   limiting element voltage (ac)
AAJ010-001   rated voltage

AAE003-006   adjustability type

Subclasses
AAA090-001   Fixed resistors
AAA100-003   Variable resistors

AAA090-002 02

Fixed resistors   FIX

A set of fixed resistors of which each resistor can be described with the same group of data element types.

NOTE
FIXED RESISTORS are resistors designed so that their main property cannot be varied by mechanically changing the spatial relationship of their parts.

Properties
AAE115-005   maximum surface temperature
AAF266-005   inductance level
AAF349-001   insulation resistance
AAF350-001   temperature coefficient

AAE114-007   linearity of a fixed resistor

Subclasses
AAA091-001   Fixed linear resistors
AAA094-001   Fixed non-linear resistors

AAA091-002 02

Fixed linear resistors   LIN

A set of fixed linear resistors of which each resistor can be described with the same group of data element types.

NOTE
FIXED LINEAR RESISTORS are fixed resistors in which the voltage across the terminals is proportional to the current passing through it.

Properties
AAE113-005   temperature coefficient
AAE116-005   resistive material
AAE119-005   resistance
AAE621-005   resistor noise index
AAF463-001   toleranced resistance

AAF101-006 multiplicity

Subclasses
AAA092-001 Single linear resistors
AAA093-002 Linear resistor networks

AAA092-001 02

Single linear resistors   SIN

A set of single linear resistors of which each resistor can be described with the same group of data element types.

NOTE
SINGLE LINEAR RESISTORS are linear resistors of which each device contains only one linear resistor.

AAJ003-001 single resistor type

Su-classes
AAA509-001 Fixed precision resistors
AAA510-001 Fixed power resistors
AAA511-001 Fixed low-power resistors
AAA512-001 Fixed chip resistors
AAA513-001 Fixed thermostat resistors
AAA514-001 Fixed fusing resistors

AAA093-002 01

Linear resistor networks   MUL

A set of linear resistor networks of which each resistor network can be described with the same group of data element types.

NOTE
LINEAR RESISTORS NETWORKS are linear resistors of which each device consists of, includes, or involves more than one linear resistor.

Properties
AAE106-005   number of functions
AAF102-005   resistor interconnection

AAA094-001 02

Fixed non-linear resistors   NLN

A set of fixed non-linear resistors of which each resistor can be described with the same group of data element types.

NOTE
FIXED NON-LINEAR RESISTORS are fixed resistors in which the voltage across the terminals is not proportional to the current passing through it. [IEC 60050(811-27-16) (1991)]

AAE122-005 resistance dependency

Subclasses
AAA095-001 Light dependent resistors
AAA096-002 Temperature dependent resistor
AAA099-001 Voltage dependent resistors

AAA095-001 02

Light dependent resistors   LDR

A set of light dependent resistors of which each resistor can be described with the same group of data element types.

NOTE
LIGHT DEPENDENT RESISTORS are resistors of which the resistance value decreases when it is exposed to electromagnetic radiation (usually in the visible region of the spectrum).

Properties
AAE123-005 dark resistance
AAE124-005 light resistance
AAE617-005 LDR recovery rate

AAA096-002 01

Temperature dependent resistor   TDR

A set of temperature dependent resistors of which each resistor can be described with the same group of data element types.

NOTE
TEMPERATURE DEPENDENT RESISTORS are resistors of which the resistance value changes when the temperature is changed.

Properties
AAE127-005   resistance at 25 Cel
AAE130-005   dissipation factor
AAE131-005   thermal time constant
AAE625-005   thermistor current
AAJ073-001   thermal time-constant (power)

AAE126-005 thermistor type

Subclasses
AAA097-001 NTC thermistors
AAA098-002 PTC thermistors

AAA097-001 02

NTC thermistors   NTC

A set of NTC thermistors of which each thermistor can be described with the same group of data element types.

NOTE
NTC THERMISTORS are thermistor in which the zero-power resistance decreases with increasing temperature.

Properties
AAE132-005 thermal sensitivity index B25/85
AAE616-005 thermal sensitivity index B25/75
AAF282-005 thermal sensitivity tolerance

AAA098-002 01

PTC thermistors   **PTC**

A set of PTC thermistors of which each thermistor can be described with the same group of data element types.

NOTE
PTC THERMISTORS are thermistors which show a significant increase in zero-power resistance with increasing temperature over part of their operating temperature range.

Properties
AAE135-005   heat capacity
AAE136-005   trip current
AAE137-005   non-trip current
AAE138-005   switching temperature
AAE618-005   PTC application
AAE619-005   PTC peak inrush current
AAE620-005   PTC peak current
AAE626-005   PTC switching resistance
AAE629-005   PTC residual current
AAJ060-001   rated voltage
AAJ061-001   maximum operating voltage
AAJ062-001   maximum current
AAJ063-001   power consumption

AAA099-001 02

Voltage dependent resistors   **VDR**

A set of voltage dependent resistors of which each resistor can be described with the same group of data element types.

NOTE
VOLTAGE DEPENDENT RESISTORS are resistors of which the resistance value has a very large variation depending on the applied voltage.

Properties
AAE298-005   non-rep varistor peak current
AAE319-005   maximum clamping voltage
AAE334-005   varistor voltage at 1 mA
AAE429-005   varistor capacitance
AAE430-005   energy absorbing capacity max

AAA100-003 01

Variable resistors   **VAR**

A set of variable resistors of which each resistor can be described with the same group of data element types.

NOTE
VARIABLE RESISTORS are resistors designed so that their main property can be varied by mechanically changing the spatial relationship of their parts.

Properties
AAE113-005   temperature coefficient
AAE116-005   resistive material
AAE119-005   resistance

AAE146-005   ganging tolerance
AAE172-005   ganging number

AAE139-005 number of terminals

Subclasses
AAA101-001   Two-terminal variable resistors
AAA102-002   Potentiometers

AAA101-001 02

Two-terminal variable resistors   **TT**

A set of two-terminal variable resistors of which each resistor can be described with the same group of data element types.

NOTE
TWO-TERMINAL VARIABLE RESISTORS are variable resistors having one moving contact and one fixed termination (for example a rheostat), distinguishing them from other variable resistors with at least three terminations (potentiometers).

AAA102-002 01

Potentiometers   **POT**

A set of potentiometers of which each potentiometer can be described with the same group of data element types.

NOTE
POTENTIOMETERS are components for use as voltage dividers with three terminations of which two are connected to the ends of a resistive element and the third to a moving contact which can be moved mechanically along the resistive element.

Properties
AAE141-005   resistance law (IEC)
AAE142-005   actuator type
AAE144-005   mounting position
AAF014-005   driving feature

AAJ006-002 adjustability type

Subclasses
AAA607-001   Rotary precision potentiometers
AAA608-001   Power rotary potentiometers
AAA609-001   Low-power rotary potentiometers
AAA516-002   Preset potentiometers
AAA517-001   Slide potentiometers

AAA103-001 02

Sensors   **SEN**

A set of sensors of which each sensor can be described with the same group of data element types.

NOTE
SENSORS are electric signal transducers that convert a signal of any kind into an electric signal.

Properties
AAE893-005 sensor working principle

AAE892-005 sensor input quantity

Subclasses
AAA104-001 Humidity sensors
AAA105-001 Light sensors
AAA106-001 Magnetic field sensors
AAA107-001 Nuclear sensors
AAA108-001 Pressure sensors
AAA109-001 Proximity sensors
AAA110-001 Temperature sensors

AAA104-001 02

Humidity sensors   HUM

A set humidity sensors of which each sensor can be described with the same group of data element types.

NOTE
HUMIDITY SENSORS are sensors operating on humidity, i.e. mass of water vapour divided by the volume of the gaseous mixture.Actual humidity by volume, divided by humidity by volume at saturation, at the same temperature.

Properties
AAE857-005 operating humidity
AAE858-005 storage humidity
AAE860-005 reference capacitance
AAE861-005 sensitivity

AAA105-001 02

Light sensors   LGT

A set of light sensors of which each sensor can be described with the same group of data element types.

NOTE
LIGHT SENSORS are sensors operating on light; i.e. any optical radiation capable of causing a visual sensation directly.

AAA106-001 02

Magnetic field sensors   MGN

A set of magnetic filed sensors of which each sensor can be described with the same group of data element types.

NOTE
MAGNETIC FIELD SENSORS are sensors operating on magnetic fields.

Properties
AAE862-005 open-circuit sensitivity
AAE863-005 magnetic field strength

AAA107-001 02

Nuclear sensors   NCL

A set of nuclear sensors of which each sensor can be described with the same group of data element types.

NOTE
NUCLEAR SENSORS are sensors operating on radiation released during reactions taking place in atomic nuclei.

AAA108-001   02

Pressure sensors   PRS

A set of pressure sensors of which each sensor can be described with the same group of data element types.

NOTE
PRESSURE SENSORS are sensors operating on pressure; i.e. force divided by area.

Properties
AAE864-005 pressure mode
AAE865-005 sensitivity
AAE866-005 operating pressure

AAA109-001 02

Proximity sensors   PRX

A set of proximity sensors of which each sensor can be described with the same group of data element types.

NOTE
PROXIMITY SENSORS are sensors operating on proximity, i.e. nearness in space.

Properties
AAE867-005 output current
AAE868-005 substrate temperature
AAE869-005 hysteresis in switching distance
AAE870-005 substrate length
AAE871-005 substrate width
AAE872-005 operating frequency

AAA110-001 02

Temperature sensors   TMP

A set of temperature sensors of which each sensor can be described with the same group of data element types.

NOTE
TEMPERATURE SENSORS are sensors operating on temperature, i.e.intensity of heat.

Properties
AAE874-005 reference resistance
AAE875-005 resistance ratio R_Tamb/R_Tref
AAE876-005 temperature coefficient

AAA111-001 02

Transformers   TFM

A set of transformers of which each transformer can be described with the same group of data element types.

NOTE
TRANSFORMERS are static pieces of apparatus with two or more windings which, by electromagnetic induction, transforms a system of alternating voltage and current into another voltage and current usually of different values at the same frequency.

Properties
AAE151-005   winding configuration
AAE155-005   insulation resistance
AAF047-005   screening
AAF090-005   dc resistance

AAE152-005 power/signal

Subclasses
AAA112-001   Power transformers
AAA115-002   Signal transformers

AAA112-001 02

Power transformers   POW

A set of power transformers of which each transformer can be described with the same group of data element types.

NOTE
POWER TRANSFORMERS are transformers designed for the purpose of handling energy.

Properties
AAE158-005   clearance to earth
AAE159-005   creepage distance
AAE160-005   nominal output current
AAE163-005   input voltage
AAE165-005   output power
AAE166-005   operating frequency
AAF048-005   number of primary coils
AAF098-005   power transformer application
AAF099-005   number of secondary coils

AAE003-006 adjustability type

Subclasses
AAA113-001   Fixed power transformers
AAA114-001   Variable power transformers

AAA113-001 02

Fixed power transformers   FIX

A set of fixed power transformers of which each transformer can be described with the same group of data element types.

NOTE
FIXED POWER TRANSFORMERS are power transformers designed so that their main property cannot be changed by the spatial relationship of their parts.

Properties
AAE164-005   no-load output voltage

AAA114-001 02

Variable power transformers   VAR

A set of variable power transformers of which each transformer can be described with the same group of data element types.

NOTE
VARIABLE POWER TRANSFORMERS are power transformers designed so that their main property can be varied by mechanically changing the spatial relationship of their parts.

Properties
AAE167-005   transformer model
AAE168-005   maximum output current
AAE169-005   output voltage
AAE170-005   brush life
AAE171-005   brush life expectation
AAE172-005   ganging number
AAE173-005   total mechanical rotation

AAA115-002 01

Signal transformers   SIG

A set of signal transformers of which each transformer can be described with the same group of data element types.

NOTE
SIGNAL TRANSFORMERS are transformers designed for the purpose of handling a signal.

Properties
AAE156-005   upper frequency
AAE157-005   lower frequency
AAJ075-001   signal transformer type

AAE003-006 adjustability type

Subclasses
AAA116-001   Fixed signal transformers
AAA117-001   Variable signal transformers

AAA116-001 02

Fixed signal transformers   FIX

A set of fixed signal transformers of which each transformer can be described with the same group of data element types.

NOTE
FIXED SIGNAL TRANSFORMERS are signal transformers designed so that their main property cannot be changed by the spatial relationship of their parts.

AAA117-001 02

Variable signal transformers   VAR

A set of variable signal transformers of which each transformer can be described with the same group of data element types.

NOTE
VARIABLE SIGNAL TRANSFORMERS are signal transformers designed so that their main property can be varied by mechanically changing the spatial relationship of their parts.

AAA118-001 02

Transistors   TRA

A set of transistors of which each transistor can be described with the same group of data element types.

NOTE
TRANSISTORS are semiconductor devices capable of providing power amplification and having three or more terminals.

Properties
AAE337-005   junction temperature
AAE487-005   frequency band
AAE490-005   modulation method
AAE494-005   nearest conventional type
AAE637-005   transistor package
AAE968-005   complementary type
AAF275-002   junction stress temperature

AAE401-005 transistor technology

Subclasses
AAA119-001   Bipolar transistors
AAA126-001   Field-effect transistors

AAA119-002 02

Bipolar transistors   BIP

A set of bipolar transistors of which each transistor can be described with the same group of data element types.

NOTE
BIPOLAR TRANSISTORS are transistors having at least two junctions and whose functioning depends on both minority carriers and majority carriers (of opposite electric charge).

Properties
AAE402-005   dc current gain
AAE405-005   collector current (dc) max
AAE407-005   collector current peak value
AAE413-005   collector-emitter voltage V_CE
AAE414-005   collector-emitter voltage V_CE
AAE415-005   collector-emitter peak voltage
AAE416-005   collector-emitter sat voltage
AAE417-005   collector-base voltage V_CBO
AAE420-005   collector capacitance
AAE421-005   feedback capacitance

AAE425-005   transition frequency
AAE638-005   transistor polarity
AAE640-005   collector current ratio
AAE641-005   collector saturation current
AAF066-005   collector-emitter breakdown voltage
AAF109-005   collector cut-off current I_CB
AAF110-005   emitter cut-off current I_EBO
AAF112-005   emitter-base voltage V_EBO
AAF113-005   collector-emitter voltage V_CE
AAF114-005   base-emitter saturation voltage
AAF115-005   collector cut-off current I_CE
AAF116-005   collector-base capacitance
AAF117-005   emitter-base input capacitance

AAE971-007 signal handling type

Subclasses
AAA120-001   Bipolar power transistors
AAA123-001   Bipolar small signal transisto

AAA120-002 02

Bipolar power transistors   POWT

A set of bipolar power transistors of which each transistor can be described with the same group of data element types.

NOTE
BIPOLAR POWER TRANSISTORS are bipolar transistors, designed for power-signal applications, having a thermal resistance between junction and mounting base of 15 K/W or less.

Properties
AAE336-005   mounting base temperature
AAE422-005   output power
AAE424-005   power gain

AAF146-005 frequency application

Subclasses
AAA121-001   Bipolar lf power transistors
AAA122-001   Bipolar rf power transistors

AAA121-001 02

Bipolar LF power transistors   LF

A set of bipolar LF power transistors of which each transistor can be described with the same group of data element types.

NOTE
BIPOLAR LF POWER TRANSISTORS are bipolar power transistors designed for use with baseband unmodulated signals, for example audio, video and switching signals.

Properties
AAF055-005   delay (off) time
AAF056-005   delay (on) time
AAF057-005   fall time
AAF058-005   rise time
AAF059-005   turn-off time
AAF060-005   turn-on time

AAA122-001 02

Bipolar RF power transistors   RF

A set of bipolar RF power transistors of which each transistor can be described with the same group of data element types.

NOTE
BIPOLAR RF POWER TRANSISTORS are bipolar power transistors designed for use with signals modulated on a radio-frequency carrier.

Properties
AAE707-005   peak envelope power PEP
AAE711-005   intermodulation distortion d_im
AAE712-005   intermodulation distortion d_3
AAE714-005   synchronous output power
AAE715-005   efficiency

AAA123-002 02

Bipolar small signal transisto   SIGT

A set of bipolar small-signal transistors of which each transistor can be described with the same group of data element types.

NOTE
BIPOLAR SMALL SIGNAL TRANSISTORS are bipolar transistors, designed for small-signal applications, having a thermal resistance between junction and mounting base of more than 15 K/W.

Properties
AAE106-005   number of functions
AAE410-005   small-signal current gain
AAE418-005   difference base-emitter voltage
AAE426-005   cut-off frequency
AAE642-005   differential current change
AAE644-005   differential voltage change
AAE647-005   average noise figure
AAE648-005   spot noise figure

AAF146-005   frequency application

Subclasses
AAA124-001   Bipolar lf small signal transi
AAA125-001   Bipolar rf small signal transi

AAA124-001 02

Bipolar LF small signal transistors   LF

A set of bipolar LF small-signal transistors of which each tansistor can be described with the same group of data element types.

NOTE
BIPOLAR LF SMALL SIGNAL TRANSISTORS are bipolar small signal transistors designed for use with baseband unmodulated signals, for example audio, video and switching signals.

Properties
AAF055-005   delay (off) time

AAF056-005   delay (on) time
AAF057-005   fall time
AAF058-005   rise time
AAF059-005   turn-off time
AAF060-005   turn-on time

AAA125-001 02

Bipolar RF small signal transistors   RF

A set of bipolar RF small-signal transistors of which each transistor can be described with the same group of data element types.

NOTE
BIPOLAR RF SMALL SIGNAL TRANSISTORS are bipolar small signal transistors designed for use with signals modulated on a radio-frequency carrier.

Properties
AAE711-005   intermodulation distortion d_im
AAE712-005   intermodulation distortion d_3
AAE713-005   unilateral power gain

AAA126-002 02

Field-effect transistors   FET

A set of field-effect transistors of which each transistor can be described with the same group of data element types.

NOTE
FIELD-EFFECT TRANSISTORS are transistors in which the current flowing through a conductor channel is controlled by an electric field arising from a voltage applied between the gate and source terminals.

Properties
AAE364-005   gate type
AAE366-005   channel type
AAE368-005   drain current (dc)
AAE370-005   drain current (dc)
AAE371-005   drain cut-off current
AAE372-005   gate cut-off current
AAE373-005   source cut-off current
AAE374-005   common-mode rejection ratio
AAE377-005   drain-source voltage limit
AAE379-005   drain-substrate voltage limit
AAE384-005   gate-source threshold voltage
AAE386-005   gate-source cut-off voltage
AAE387-005   source-substrate voltage limit
AAE390-005   feedback capacitance
AAE391-005   drain-source on-state resistance
AAE393-005   drain-source on-state resistance
AAE394-005   drain-source off-state resistance
AAE396-005   transfer admittance
AAE655-005   input capacitance at gate
AAE656-005   transfer conductance
AAE982-005   input capacitance
AAE983-005   output capacitance
AAF118-005   gate-source voltage limit

AAE971-007   signal handling type

Subclasses
AAA127-001   Field-effect power transistors
AAA130-001   Field-effect small signal tran

AAA127-002   02

Field-effect power transistors   POWT

A set of field-efect transistors of which each
transistor can be described with the same group of
data element types.

NOTE
FIELD-EFFECT POWER TRANSISTORS are field-
effect transistors designed for power-signal
applications, having a thermal resistance between
junction and mounting base of 15 K/W or less.

Properties
AAE336-005   mounting base temperature

AAF146-005   frequency application

Subclasses
AAA128-001   Field-effect lf power transistors
AAA129-001   Field-effect rf power transistors

AAA128-001   02

Field-effect LF power transistors   LF

A set of field-effect LF power transistors of which
each transistor can be described with the same
group of data element types.

NOTE
FIELD-EFFECT LF POWER TRANSISTORS are
field-effect power transistors designed for use with
baseband unmodulated signals, for example audio,
video and switching signals.

Properties
AAE976-005   rise time
AAE977-005   fall time
AAE978-005   turn-on time
AAE979-005   turn-off time
AAE980-005   delay (on) time
AAE981-005   delay (off) time

AAA129-001   02

Field-effect RF power transist   RF

A set of field-effect RF power transistors of which
each transistor can be described with the same
group of data element types.

NOTE
FIELD-EFFECT RF POWER TRANSISTORS are
field-effect transistors designed for use with signals
modulated on a radio-frequency carrier.

AAA130-001   02

Field-effect small signal transistors SIGT

A set of field-effect small-signal transistors of which
each transistor can be described with the same
group of data element types.

NOTE
FIELD-EFFECT SMALL SIGNAL TRANSISTORS are
field-effect transistors designed for small-signal
applications, having a thermal resistance between
junction and mounting base of more than 15 K/W.

Properties
AAE380-005   equivalent noise voltage
AAE383-005   gate-source voltage difference
AAE389-005   thermal drift gate-source voltage
AAE657-005   spot noise figure
AAE716-005   difference in penetration factor
AAE717-005   difference in transfer impedance
AAE973-005   FET-technology
AAE976-005   rise time
AAE977-005   fall time
AAE978-005   turn-on time
AAE979-005   turn-off time
AAE980-005   delay (on) time
AAE981-005   delay (off) time

AAA131-001   02

Trigger devices   TRG

A set of trigger devices of which each device can be
described with the same group of data element
types.

NOTE
TRIGGER DEVICES are bistable semiconductor
devices comprising three or more junctions which
can be switched from the off-state to the on-state or
vice versa.

Properties
AAE331-005   diode package
AAE336-005   mounting base temperature
AAE337-005   junction temperature
AAF275-002   junction stress temperature

AAE724-005   trigger device function

Subclasses
AAA132-001   Diacs
AAA133-001   Thyristors
AAA137-001   Triacs

AAA132-001 02

Diacs   **DIA**

A set of diacs of which each diac can be described with the same group of data element types.

NOTE
DIACS are bi-directional diode thyristors: two-terminal trigger devices having substantially the same behaviour in the first and third quadrants of the principal characteristic. IEC 60747-6 (2000)

Properties
AAE293-005   repetitive peak forward current
AAE725-005   breakover voltage
AAE726-005   output voltage

AAA133-001 02

Thyristors   **THY**

A set of thyristors of which each thyristor can be described with the same group of data element types.

NOTE
THYRISTORS are three-terminal trigger devices having a different behaviour in the first and third quadrants of the principal characteristic.

Properties
AAE276-005   reverse current
AAE305-005   Joule-integral
AAE728-005   rms on-state current
AAE729-005   repetitive peak on-state current
AAE730-005   non-rep peak on-state current
AAE732-005   gate trigger current
AAE738-005   off-state voltage
AAE739-005   repetitive peak off-state voltage
AAE740-005   rate of rise of off-state voltage
AAE742-005   gate trigger voltage
AAE744-005   average on-state current
AAF135-005   off-state current
AAF136-005   holding current
AAF137-005   latching current

AAE743-005 thyristor function

Subclasses
AAA134-001   Fast turn-off thyristors
AAA135-001   Gate turn-off thyristors
AAA136-001   Reverse blocking thyristors

AAA134-001 02

Fast turn-off thyristors   **FTO**

A set of fast turn-off thyristors of which each thyristor can be described with the same group of data element types.

NOTE
FAST TURN-OFF THYRISTORS are thyristors in which the current may be turned on or off in times of the order of 1μs

Properties
AAE734-005   rate of rise on-state current
AAE747-005   commutated turn-off time

AAA135-001 02

Gate turn-off thyristors   **GTO**

A set of gate turn-off thyristors of which each thyristor can be described with the same group of data element types.

NOTE
GATE TURN-OFF THYRISTORS are thyristors which can be switched from the on-state to the off-state and vice versa by applying control signals of appropriate polarity to the gate terminal.

Properties
AAE745-005   controllable anode current
AAE746-005   fall time

AAA136-001 02

Reverse blocking thyristors   **RVB**

A set of reverse blocking thyristors of which each thyristor can be described with the same group of data element types.

NOTE
REVERSE BLOCKING THYRISTORS are unidirectional thyristors that switch for positive anode voltages and exhibit a reverse blocking state for negative anode voltages.

Properties
AAE300-005   repetitive peak reverse voltage
AAE734-005   rate of rise on-state current
AAE748-005   cathode-gate to cathode current
AAE749-005   anode-gate to anode current
AAE750-005   cathode-gate trigger voltage
AAE751-005   anode-gate to anode voltage

AAA137-001 02

Triacs   **TRI**

A set of triacs of which each triac can be described with the same group of data element types.

NOTE
TRIACS are bi-directional triode thyristors: three-terminal trigger-devices having substantially the same switching behaviour in the first and third quadrants of behaviour in the first and third quadrants of the principal characteristic. [IEC 60747-6 (2000]

Properties
AAE276-005   reverse current
AAE305-005   Joule-integral
AAE728-005   rms on-state current
AAE729-005   repetitive peak on-state current
AAE730-005   non-rep peak on-state current
AAE732-005   gate trigger current

AAE734-005 rate of rise on-state current
AAE738-005 off-state voltage
AAE739-005 repetitive peak off-state voltage
AAE740-005 rate of rise of off-state voltage
AAE741-005 rate of rise commutating voltage
AAE742-005 gate trigger voltage
AAF135-005 off-state current
AAF136-005 holding current
AAF137-005 latching current

AAA138-001 02

Tubes   TUB

A set of tubes of which each tube can be described with the same group of data element types.

NOTE
TUBES are electronic devices in which conduction takes place by electrons or ions between electrodes through a vacuum or gaseous medium within a gas tight envelope, but excluding devices used only for lighting. IEC 60050(531) (1974)

Properties
AAE579-005 heater voltage
AAE580-005 heater current

AAE696-005 tube type

Subclasses
AAA139-001 Display tubes
AAA142-001 Gas filled tubes
AAA143-001 Photo sensitive tubes
AAA144-001 Space charge controlled tubes
AAA145-001 Space charge wave tubes

AAA139-001 02

Display tubes   CRT

A set of display tubes of which each tube can be described with the same group of data element types.

NOTE
DISPLAY TUBES are signal-to-image converter tubes in which a well-defined and controllable beam of electrons is produced and directed on to a surface to give a visible or otherwise detectable display or effect. IEC 60050(531) (1974)

Properties
AAE581-005 overall length
AAE588-005 deflection angle
AAE589-005 neck diameter
AAE590-005 anode voltage
AAE592-005 screen diagonal
AAE593-005 useful screen horizontal
AAE594-005 useful screen vertical
AAE595-005 tube size (cm)
AAE596-005 glass transmission
AAE598-005 base type
AAE605-005 phosphor code
AAE606-005 application code
AAE804-005 screen curvature radius
AAF203-005 anode current average

AAF204-005 anode current peak
AAF205-005 vertical resolution
AAF271-005 screen shape
AAF272-005 tube size (inch)
AAF315-005 anode voltage limiting

AAF202-005 chromaticity

Subclasses
AAA140-001 Colour display tubes
AAA141-001 Monochrome display tubes

AAA140-001 02

Colour display tubes   COL

A set of colour display tubes of which each tube can be described with the same group of data element types.

NOTE
COLOUR DISPLAY TUBES are display tubes which can produce images in colour by varying the relative intensity of excitation of three screen phosphors of different chromaticity.

Properties
AAE584-005 grid 2 voltage for cut-off
AAE585-005 focusing voltage
AAE591-005 cathode voltage for cut-off
AAE805-005 pixel pitch horizontal
AAE806-005 horizontal resolution
AAF314-005 focusing voltage limiting

AAA141-001 02

Monochrome display tubes   MCR

A set of monochrome display tubes of which each tube can be described with the same group of data element types.

NOTE
MONOCHROME DISPLAY TUBES are display tubes which can produce images of only one chromaticity, usually determined by a screen phosphor with a single pair of colour coordinates.

Properties
AAE578-005 grid 1 voltage for cut-off
AAE586-005 focusing voltage
AAE603-005 cathode voltage for cut-off
AAF206-005 grid 2 voltage

AAA142-001 02

Gas filled tubes   GAS

A set of gas filled tubes of which each tube can be described with the same group of data element types.

NOTE
GAS FILLED TUBES are electronic tubes in which the electrical characteristics are substantially established by the ionisation of deliberately introduced gas or vapour.

AAA143-001 02

Photo sensitive tubes   PHO

A set of photo sensitive tubes of which each tube can be described with the same group of data element types.

NOTE
PHOTO SENSITIVE TUBES are tubes the functioning of which is determined by the photoelectric effect.

AAA144-001 02

Space charge controlled tubes   SCC

A set of space charge control tubes of which each tube can be described with the same group of data element types.

NOTE
SPACE CHARGE CONTROLLED TUBES are electronic tubes whose mode of operation is based on the control of space-charge-limited current by electrode voltages.

AAA145-001 02

Space charge wave tubes   SCW

A set of space charge wave tubes of which each tube can be described with the same group of data element types.

NOTE
SPACE CHARGE WAVE TUBES are vacuum tubes the functioning of which is based on the conversion of energy by interaction of electromagnetic fields with space-charge waves of an electron beam.

AAA146-001 02

Tuners   TUN

A set of tuners of which each tuner can be described with the same group of data element types.

NOTE
TUNERS are packaged units capable of producing only the first portion of the functions of a receiver and delivering either radio-frequency, intermediate-frequency, or demodulated information to some other equipment.

AAA147-002 02

Electromechanical components   EM

A set of electromechanical components of which each component can be described with the same group of data element types.

NOTE
ELECTROMECHANICAL COMPONENTS are components utilizing electromagnetic energy of which the operation involves mechanical motion.

Properties
AAE007-005   terminal shape
AAE008-005   terminal placement
AAE023-005   terminal diameter
AAE024-005   terminal pitch
AAE027-005   mounted height
AAE072-005   terminal length
AAE149-005   safety approval
AAE257-005   power dissipation
AAE259-005   shape size code BSI
AAE347-005   CECC specification
AAE540-005   current rms
AAE633-005   lacquered length
AAE634-005   terminal material
AAE754-005   number of terminals
AAE785-005   signal type
AAE841-005   storage temperature
AAE891-005   ambient temperature
AAE987-005   power consumption
AAF316-001   hole pitch
AAF317-001   flange length
AAF319-001   flange height
AAF320-001   body diameter
AAF321-001   pitch (x-axis)
AAF322-001   pitch (y-axis)
AAF337-001   pitch circle diameter
AAF338-001   terminal breadth
AAF339-001   terminal thickness
AAF340-001   offset (y-axis)
AAF341-001   offset (x-axis)
AAF342-001   flange diameter
AAF343-001   mounting method
AAF344-001   body shape
AAF345-001   terminal exit position SMD
AAF346-001   terminal exit position non-SMD
AAF347-001   terminal shape non-SMD
AAF348-001   terminal shape SMD
AAF351-001   number of holes
AAF352-001   basic aspect
AAF373-001   number of studs
AAF374-001   number of pitches (x-axis)
AAF375-001   number of pitches (y-axis)
AAF376-001   terminal cross-section shape

AAE060-005 category EM component

Subclasses
AAA148-001   Connectors
AAA610-001   Connector parts
AAA149-002   Fuses
AAA150-001   Loudspeakers
AAA159-001   Microphones
AAA160-001   Motors
AAA171-001   Relays
AAA172-001   Switches

AAA148-002 01

Connectors CON

A set of connectors of which each connector can be described with the same group of data element types.

NOTE
CONNECTORS are components which terminate conductors for the purpose of providing connection and disconnection to a suitable mating component.

Properties
AAE155-005 insulation resistance
AAE159-005 creepage distance
AAE345-005 female entry
AAE348-005 pinning arrangement
AAE350-005 contact finish
AAE351-006 housing material
AAE352-005 terminal-to-contact angle
AAE353-005 contact sex
AAE354-005 polarisation
AAE355-005 contact body material
AAE356-005 connector shape
AAE357-005 performance class
AAE358-005 contact current max
AAE359-005 number of contacts
AAE360-005 number of rows
AAE361-005 mechanical endurance
AAE362-005 connector opening
AAE363-005 contact length under housing
AAE920-005 contact resistance
AAF045-005 engaging force
AAF046-005 separating force
AAF051-005 locking device
AAF053-005 terminal length beside housing
AAF124-005 integrated component
AAF125-005 contact spring material
AAF126-005 UL flammability
AAF127-005 IEC flammability
AAF128-005 package colour
AAF148-005 socket type
AAF150-005 number of contacts per row
AAF434-001 bending radius
AAJ037-001 termination style
AAJ038-001 coupling style
AAJ039-001 contact pitch
AAJ042-001 connector rated voltage
AAJ043-001 connector rated current
AAJ044-001 connector diameter

AAE349-006 connector type

Subclasses
AAA518-001 Circular connectors
AAA519-001 Rectangular connectors
AAA520-001 PCB connectors
AAA521-001 RF connectors
AAA522-001 Connectors for IC cards
AAA523-001 Modular connectors
AAA526-001 Plugs and jacks
AAA527-001 Sockets
AAA528-001 Terminals

AAA149-002 01

Fuses FUS

A set of fuses of which each fuse can be described with the same group of data element types.

NOTE
FUSES are devices that, by the fusing of one or more of their specially-designed and proportioned components, open the circuit in which they are inserted by breaking the current when this exceeds a given value for a sufficient time. The fuse comprises all the parts that form the complete device. IEC 60050(441) (1984)

Properties
AAE519-005 nominal voltage
AAE523-005 Joule-integral
AAE524-005 speed
AAE525-005 rated current
AAF122-005 rated breaking capacity
AAF123-005 voltage drop
AAJ034-001 fuse pre-arcing time

AAJ012-002 fuse type

Subclasses
AAA575-001 Current-activated fuses
AAA576-001 Thermally-activated fuses

AAA150-001 02

Loudspeakers LSP

A set of loudspeakers of which each loudspeaker can be described with the same group of data element types.

NOTE
LOUDSPEAKERS are transducers by which acoustic waves are obtained from electric oscillation waves and designed to radiate acoustic power into the surrounding medium.

Properties
AAE338-005 maximum noise voltage
AAE339-005 upper rated frequency
AAE340-005 effective frequency f_e2
AAE341-005 effective frequency f_e1
AAF090-005 dc resistance
AAF193-005 sensitivity

AAE005-006 transducer principle

Subclasses
AAA151-001 Moving conductor loudspeakers
AAA152-001 Magnetodynamic loudspeakers
AAA153-001 Ionic loudspeakers
AAA154-001 Electromagnetic loudspeakers
AAA155-001 Pneumatic loudspeakers
AAA156-001 Piezoelectric loudspeakers
AAA157-001 Electrostatic loudspeakers
AAA158-001 Magnetostrictive loudspeakers

AAA151-001 02

Moving conductor loudspeakers   MVC

A set of moving conductor loudspeakers of which each loudspeaker can be described with the same group of data element types.

NOTE
MOVING CONDUCTOR LOUDSPEAKERS are loudspeakers that operate by the motion of a conductor or a coil, carrying a varying current, in a steady magnetic field.

Properties
AAE048-005   maximum noise power
AAE049-005   rated impedance
AAE050-005   resonance frequency
AAE051-005   centre pole diameter
AAE053-005   magnet material
AAE054-005   baffle hole length
AAE055-005   frequency application
AAE056-005   baffle hole breadth
AAE061-005   shape of flange

AAA152-001 02

Magnetodynamic loudspeakers   MGD

A set of magnetodynamic loudspeakers of which each loudspeaker can be described with the same group of data element types.

NOTE
MAGNETODYNAMIC LOUDSPEAKERS are loudspeakers that operate by the motion of a magnet attached to a diaphragm and activated by a current through a fixed coil.

AAA153-001 02

Ionic loudspeakers   ION

A set of ionic loudspeakers of which each loudspeaker can be described with the same group of data element types.

NOTE
IONIC LOUDSPEAKERS are loudspeakers that operate by the interaction between an ionic plasma and the surrounding air.

AAA154-001 02

Electromagnetic loudspeakers   ELM

A set of electromagnetic loudspeakers of which each loudspeaker can be described with the same group of data element types.

NOTE
ELECTROMAGNETIC LOUDSPEAKERS are loudspeakers that operate by the motion of a magnet, connected to the membrane, and actuated by a variable magnetic field.

AAA155-001 02

Pneumatic loudspeakers   PNM

A set of pneumatic loudspeakers of which each loudspeaker can be described with the same group of data element types.

NOTE
PNEUMATIC LOUDSPEAKERS are loudspeakers that operate by controlled variations of an air stream.

AAA156-001 02

Piezoelectric loudspeakers   PXE

A set of piezoelectric loudspeakers of which each loudspeaker can be described with the same group of data element types.

NOTE
PIEZOELECTRIC LOUDSPEAKERS are loudspeakers that operate by the piezoelectric properties of the material.

AAA157-001 02

Electrostatic loudspeakers   ELS

A set of electrostatic loudspeakers of which each loudspeaker can be described with the same group of data element types.

NOTE
ELECTROSTATIC LOUDSPEAKERS are loudspeakers that operate by electrostatic forces.

AAA158-001 02

Magnetostrictive loudspeakers   MGS

A set of magnetostriction loudspeakers of which each loudspeaker can be described with the same group of data element types.

NOTE
MAGNETOSTRICTIVE LOUDSPEAKERS are loudspeakers that operate by the magnetostrictive properties of a material.

AAA159-001   02

Microphones   MIC

A set of microphones of which each microphone can be described with the same group of data element types.

NOTE
MICROPHONES are electroacoustical transducers by which electric signals are obtained from acoustical oscillations.

Properties
AAE340-005   effective frequency f_e2
AAE341-005   effective frequency f_e1
AAE533-005   input impedance

AAA160-001 02

Motors   **MOT**

A set of motors of which each motor can be described with the same group of data element types.

NOTE
MOTORS are (electric) machines which converts electric energy into mechanical energy.

Properties
AAE174-005   magnet type
AAE175-005   coil connection
AAE176-005   armature material
AAE177-005   integrated component
AAE180-005   electromotive force
AAE182-005   input power
AAE517-005   inductance
AAF090-005   dc resistance
AAF131-005   number of phases

AAE179-005 trajectory of motion

Subclasses
AAA161-001   Linear motors
AAA166-001   Rotational motors

AAA161-001 02

Linear motors   **LIN**

A set of linear motors of which each motor can be described with the same group of data element types.

NOTE
LINEAR MOTORS are electric motors that have been split and unrolled into two flat sheets, so that the motion between rotor and stator is linear rather than rotary.

Properties
AAF049-005   speed
AAF132-005   travel
AAF133-005   rated force

AAE178-005 supply current type

Subclasses
AAA162-001   Linear ac motors
AAA163-001   Linear dc motors
AAA164-001   Linear stepping motors
AAA165-001   Linear universal motors

AAA162-001 02

Linear ac motors   **AC**

A set of linear ac motors of which each motor can be described with the same group of data element types.

NOTE
LINEAR AC MOTORS are linear motors designed essentially for application with an alternating current or voltage.

Properties
AAE184-005   rated input voltage (ac)

AAA163-001 02

Linear dc motors   **DC**

A set of linear dc motors of which each motor can be described with the same group of data element types.

NOTES
LINEAR DC MOTORS are linear motors designed essentially for application with a direct current or voltage.

Properties
AAE186-005   rated input voltage (dc)
AAE187-005   mechanical time constant

AAA164-001 02

Linear stepping motors   **STP**

A set of linear stepping motors of which each motor can be described with the same group of data element types.

NOTE
LINEAR STEPPING MOTORS are linear motors, the rotor of which rotates in angular increments when the stator windings are energised in a programmed manner.

Properties
AAE203-005   current per phase
AAE204-005   rated input voltage (pulse)
AAE205-005   pull-in rate
AAE206-005   pull-out rate
AAF061-005   step length
AAF062-005   holding force

AAA165-001 02

Linear universal motors   **UNI**

A set of linear universal motors of which each motor can be described with the same group of data element types.

NOTE
LINEAR UNIVERSAL MOTORS are linear motors which can be operated by either direct current or single phase alternating current of normal supply frequencies.

AAA166-001 02

Rotational motors   **ROT**

A set of rotational motors of which each motor can be described with the same group of data element types.

NOTE
ROTATIONAL MOTORS are motors characterized by, turning about an axis.

Properties
AAE188-005   direction of rotation
AAE189-005   rotor inertia
AAE190-005   maximum radial force
AAE191-005   rated torque
AAE200-005   maximum axial force

AAE178-005   supply current type

Subclasses
AAA167-001   Rotational ac motors
AAA168-001   Rotational dc motors
AAA169-001   Rotational stepping motors
AAA170-001   Rotational universal motors

AAA167-001 02

Rotational ac motors   **AC**

A set of rotational ac motors of which each motor can be described with the same group of data element types.

NOTE
ROTATIONAL AC MOTORS are rotational motors designed essentially for application with an alternating current or voltage.

Properties
AAE183-005   ac motor synchronism
AAE184-005   rated input voltage (ac)
AAE194-005   synchronous speed
AAE195-005   rated speed
AAE196-005   starting torque

AAA168-001 02

Rotational dc motors   **DC**

A set of rotational dc motors of which each motor can be described with the same group of data element types.

NOTE
ROTATIONAL DC MOTORS are rotational motors designed essentially for application with a direct current or voltage.

Properties
AAE186-005   rated input voltage (dc)
AAE187-005   mechanical time constant
AAE195-005   rated speed
AAE197-005   rated input current
AAE199-005   starting torque

AAA169-001 02

Rotational stepping motors   **STP**

A set of rotational stepping motors of which each motor can be described with the same group of data element types.

NOTE
ROTATIONAL STEPPING MOTORS are rotational motors the rotor of which rotates in angular increments when the stator windings are energised in a programmed manner.

Properties
AAE201-005   pull-out torque
AAE202-005   pull-in torque
AAE204-005   rated input voltage (pulse)
AAE205-005   pull-in rate
AAE206-005   pull-out rate
AAE207-005   holding torque
AAE208-005   step angle

AAA170-001 02

Rotational universal motors   **UNI**

A set of rotational universal motors of which each motor can be described with the same group of data element types.

NOTE
ROTATIONAL UNIVERSAL MOTORS are rotational motors which can be operated by either direct current or single phase alternating current of normal supply frequencies.

AAA171-001 02

Relays   **REL**

A set of relays of which each relay can be described with the same group of data element types.

NOTE
RELAYS are (electric) devices designed to close or open one or more electric circuits by means of separate contacts, after the appearance of certain conditions in the electric input circuits controlling the device. [IEC 60050(446) (1983)]

Properties
AAE155-005   insulation resistance
AAE350-005   contact finish
AAE355-005   contact body material
AAE506-005   switching function
AAE508-005   sealing
AAE509-005   U/I category
AAE512-005   contact voltage (ac)
AAE513-005   limiting contact voltage
AAE515-005   contact current (ac)
AAE907-005   stability
AAE911-005   energising current (dc)
AAE912-005   energising current (ac)
AAE915-005   energising voltage (dc)
AAE916-005   energising voltage (ac)

AAE918-005 coil-contact capacitance
AAE919-005 contact capacitance
AAE920-005 contact resistance
AAE921-005 number of contact assemblies
AAE922-005 mechanical life
AAE923-005 operate time
AAE924-005 release time
AAE925-005 contact member force
AAE928-005 contact power (ac)
AAE930-005 bounce time
AAF048-005 number of primary coils
AAF050-005 release voltage (ac)
AAF090-005 dc resistance
AAF106-005 contact current (dc)
AAF107-005 contact voltage (dc)
AAF125-005 contact spring material
AAF129-005 release voltage (dc)
AAF130-005 contact power (dc)

AAA172-001 02

Switches   **SWI**

A set of switches of which each switch can be
described with the same group of data element
types.

NOTE
SWITCHES are devices designed to close and open
one or more electric circuits by means of separable
contacts, under control of an external quantity.
(derivation)

Properties
AAE155-005 insulation resistance
AAE208-005 step angle
AAE350-005 contact finish
AAE351-006 housing material
AAE355-005 contact body material
AAE506-005 switching function
AAE512-005 contact voltage (ac)
AAE513-005 limiting contact voltage
AAE515-005 contact current (ac)
AAE920-005 contact resistance
AAE921-005 number of contact assemblies
AAE922-005 mechanical life
AAE928-005 contact power (ac)
AAE929-005 number of stable positions
AAE930-005 bounce time
AAF106-005 contact current (dc)
AAF107-005 contact voltage (dc)
AAF125-005 contact spring material
AAF130-005 contact power (dc)
AAF134-005 integrated function

AAE926-005 actuating quantity

Subclasses
AAA173-001 Reed switches
AAA174-002 Mechanical switches
AAA175-001 Thermostatic switches

AAA173-001 02

Reed switches   **REE**

A set of reed switches of which each switch can be
described with the same group of data element types.

NOTE
REED SWITCHES are switches that have contacts
mounted on ferromagnetic reeds (thin bars) sealed
in a glass tube, designed for activation by an
external magnetic field.

AAA174-002 01

Mechanical switches   **MEC**

A set of mechanical switches of which each switch
can be described with the same group of data
element types.

NOTE
MECHANICAL SWITCHES are switches actuated by
an external mechanical force.

Properties
AAE931-006 switch actuation
AAE932-005 actuating force
AAJ064-001 number of poles
AAJ065-001 travel
AAJ066-001 angular travel
AAJ067-001 operating life
AAJ068-001 shaft style
AAJ069-001 shaft length
AAJ070-001 shaft diameter
AAJ071-001 additional features
AAJ072-001 sealing

AAA175-001 02

Thermostatic switches   **THE**

A set of thermostatic switches of which each switch
can be described with the same group of data
element types.

NOTE
THERMOSTATIC SWITCHES are switches whose
function is controlled by variations of temperature and
whose contacts make or break automatically a load
circuit when the temperature of the ambient space in
which their sensing element is placed or the temper-
ature of the surface on which they are fixed reaches a
predetermined value. [IEC 60050(581) (1978)]

AAA215-001 02

Magnetic parts   **MP**

A set of magnetic parts of which each part can be
described with the same group of data element types.

NOTE
MAGNETIC PARTS are products consisting entirely
of the same magnetic material except for possible
coating or finishing of the surface.

AAE759-005 coercivity class

Subclasses
AAA216-001 Hard-magnetic parts
AAA217-001 Soft-magnetic parts

AAA216-001 02

Hard-magnetic parts   HRD

A set of hard-magnetic parts of which each part can
be described with the same group of data element
types.

NOTE
HARD-MAGNETIC PARTS are magnetic parts
having a high coercivity.

AAA217-001 02

Soft-magnetic parts   SFT

A set of soft-magnetic parts of which each part can
be described with the same group of data element
types.

NOTE
SOFT-MAGNETIC PARTS are magnetic parts having
a low coercivity.

Properties
AAE764-005 soft magnetic material grade
AAE765-005 core size code
AAE766-005 core shape
AAE770-005 inductance factor
AAE771-005 effective permeability
AAE775-005 total power loss
AAE776-005 effective magnetic path length
AAE777-005 core factor C_1
AAE778-005 (air) gap length
AAE782-005 effective cross-sectional area
AAF283-005 minimum cross-sectional area
AAF309-005 accessory name

AAA218-001 02

Materials   MA

A set of materials of which each material can be
described by the same set of data element types.

NOTE
MATERIALS are products intended for further
physical processing including chemical and nuclear
processing, during which their geometry or
composition will change.

Properties
AAF286-005 density

AAF311-006 material type

Subclasses
AAA219-001 Acoustic materials

AAA231-001 Dielectric and insulating materials
AAA220-001 Magnetic materials
AAA223-001 Optical materials
AAA230-001 Printed wiring laminates
AAA224-001 Thermal materials

AAA219-001 02

Acoustic materials   ACO

A set of acoustic materials of which each material
can be described by the same set of data element
types.

NOTE
ACOUSTIC MATERIALS are materials related to,
containing, proceeding, arising from, actuated by, or
carrying sound.

AAA220-001 02

Magnetic materials   MG

A set of magnetic materials of which each material
can be described by the same set of data element
types.

NOTE
MAGNETIC MATERIALS are materials exhibiting
ferromagnetism.

Properties
AAE760-005 resistivity
AAE761-005 Curie temperature

AAE759-005 coercivity class

Subclasses
AAA221-001 Hard magnetic materials
AAA222-001 Soft magnetic materials

AAA221-001 02

Hard magnetic materials   HRD

A set of hard magnetic materials of which each
material can be described by the same set of data
element types.

NOTE
HARD-MAGNETIC MATERIALS are materials
exhibiting ferromagnetism having a high coercivity.

Properties
AAE762-005 hard magnetic material grade
AAF287-005 coercivity H_cB
AAF288-005 coercivity H_cJ
AAF289-005 field strength at (BH)_max
AAF290-005 saturation field strength
AAF291-005 temperature coefficient H_cJ
AAF292-005 remanent flux density
AAF293-005 flux density at (BH)_max
AAF294-005 recoil permeability
AAF295-005 BH product max
AAF296-005 B_r x H_cJ product
AAF297-005 temperature coefficient Br

AAA222-001 02

Soft magnetic materials   SFT

A set of soft magnetic materials of which each material can be described by the same set of data element types.

NOTE
SOFT-MAGNETIC MATERIALS are materials exhibiting ferromagnetism having a low coercivity.

Properties
AAE764-005   soft magnetic material grade
AAE769-005   magnetic flux density
AAE772-005   initial permeability
AAE773-005   amplitude permeability
AAF298-005   loss factor
AAF299-005   disaccommodation factor
AAF300-005   specific total loss
AAF306-005   hysteresis material constant
AAF307-005   temperature factor of permeability
AAF308-005   saturation flux density

AAA223-001 02

Optical materials   OP

A set of optical materials of which each material can be described by the same set of data element types.

NOTE
OPTICAL MATERIALS are materials which are transparent to light or to infra-red, ultra violet or X-ray radiation, such as glass and certain single crystals, polycrystalline.

AAA224-001 02

Thermal materials   TH

A set of thermal materials of which each material can be described by the same set of data element types.

NOTE
THERMAL MATERIALS are materials that can be used to convert thermal energy into electric energy or provides refrigeration directly from electric energy.

AAA225-001 02

Deflection units   DFL

A set of deflection units of which each deflection unit can be described by the same set of data element types.

NOTE
DEFLECTION UNITS are assemblies of field coils and line coils used to produce the magnetic fields for vertical and horizontal deflection of the electron beam(s) of a display tube.

Properties
AAE607-005   line coil inductance

AAE608-005   field coil inductance
AAE609-005   line coil resistance
AAE610-005   field coil resistance
AAE611-005   line deflection current
AAE612-005   field deflection current
AAF273-005   display format
AAF274-005   line frequency

AAA226-001 02

Chokes   CHOKE

A set of chokes of which each choke can be described by the same set of data element types.

NOTE
CHOKES are inductances used in a circuit to present a high impedance for frequencies above a specified frequency range without appreciably limiting the flow of direct current.

AAA227-001 02

Coils   COIL

A set of coils of which each coil can be described by the same set of data element types.

NOTE
COILS are a number of turns of wire used to introduce inductance into an electric circuit, to produce magnetic flux, or to react mechanically to a changing magnetic flux.

AAA228-001 02

Linearity control units   LINUNIT

A set of linearity control units of which each unit can be described by the same set of data element types.

NOTE
LINEARITY CONTROL UNITS are control units to adjust the variation of scanning speed during the trace interval to minimise geometric distortion.

AAA229-001   02

Microwave components   MIC

A set of components for operation at microwave frequencies of which each component can be described by the same set of data element types.

Properties
AAF260-005   characteristic impedance
AAJ041-001   voltage standing wave ratio
AAJ056-001   category temperature
AAJ117-001   microwave component type
AAJ118-001   connection type
AAJ119-001   insertion loss
AAJ120-001   isolation
AAJ121-001   maximum power handling
AAJ122-001   frequency range

AAA230-001 02

Printed wiring laminates   PWL

A set of copper-clad laminates for printed wiring of which each laminate can be described by the same set of data element types.

Properties
AAJ040-001   circuit board thickness
AAJ107-001   printed wiring base material
AAJ108-001   copper thickness
AAJ109-001   number of layers

AAA231-001 02

Dielectric and insulating materials   DIEL

A set of dielectric or insulating materials of which each material can be described by the same set of data element types.

Properties
AAJ106-001   dielectric material

AAA232-001 02

Printed wiring circuits   PWC

A set of rigid, sem-rigid or flexible printed wiring circuits of which each circuit can be described by the same set of data element types.

Properties
AAJ040-001   circuit board thickness
AAJ107-001   printed wiring base material
AAJ108-001   copper thickness
AAJ109-001   number of layers
AAJ110-001   circuit length
AAJ111-001   circuit width
AAJ112-001   track width
AAJ113-001   track spacing
AAJ114-001   connector material
AAJ115-001   connector pitch

AAA233-001 02

Features   FEA

A set of features of a characteristic property of which each feature can be described by the same set of data element types.

NOTE
FEATURES are autonomous and stand-alone abstractions of an object of the parts/component library application domain. It might be represented as a specific subclass of other classes.

AAF440-001 features

Subclasses
AAA234-001   Complex number values
AAA235-001   Toleranced values

AAA234-001 02

Complex number values   CPLX

A set of properties representing a characteristic value as a complex quantity which can be described by the same set of data element types.

NOTE
COMPLEX NUMBER VALUES are values for physical quantities that may be expressed in a Cartesian form with a real and an imaginary part or in a polar form with a magnitude and an argument (phase angle).

Properties
AAF454-001   phase angle
AAF455-001   phase angle

AAF441-001 complex numbers

Subclasses
AAA236-001   Impedance
AAA237-001   Admittance

AAA235-001 02

Toleranced values   TOL

A set of properties representing the percentage (%) tolerances of a characteristic value which can be described by the same set of data element types.

NOTE
TOLERANCED VALUES are values for physical quantities that may be expressed as the nominal value of the quantity together with deviations from that nominal value as percentages or absolute values.

Properties
AAF443-001   symmetric tolerance
AAF444-001   negative tolerance
AAF445-001   positive tolerance

AAF442-001 toleranced values

Subclasses
AAA238-001   Toleranced capacitance
AAA239-001   Toleranced resistance
AAA239-001   Toleranced resistance

AAA236-001 02

Impedance   IMP

A set of properties representing the impedance of an electric component as a complex quantity of which each set of values can be described by the same set of data element types

NOTE
IMPEDANCE is the ratio of voltage to current expressed as a complex number value.

Properties
AAF456-001   modulus of impedance
AAF457-001   resistance
AAF458-001   reactance

AAA237-001 02

Admittance   **ADM**

A set of properties representing the admittance of an electric component as a complex quantity of which each set of values can be described by the same set of data element types.

NOTE
ADMITTANCE is the ratio of current to voltage expressed as a complex number value.

Properties
AAF459-001   modulus of admittance
AAF460-001   conductance
AAF461-001   susceptance

AAA238-001 02

Toleranced capacitance   **TOLCAP**

A set of properties representing capacitance of an electric component together with associated tolerances of which each set of values can be described by the same set of data element types.

Properties
AAF446-001   capacitance
AAF447-001   symmetric capacitance tolerance
AAF448-001   negative capacitance tolerance
AAF449-001   positive capacitance tolerance

AAA239-001 02

Toleranced resistance   **TOLRES**

A set of properties representing resistance of an electric component together with associated tolerances of which each set of values can be described by the same set of data element types.

Properties
AAF450-001   resistance
AAF451-001   symmetric resistance tolerance
AAF452-001   negative resistance tolerance
AAF453-001   positive resistance tolerance

AAA295-001 02

Bare die   **BARE**

A set of bare die devices without attachments and with pads on one surface only for which the geometric and physical properties of each device can be described by the same set of data element types.

NOTE
BARE DIE are unpackaged discrete semiconductors or integrated circuits in the form of singulated die or sawn or unsawn wafers with pads on one surface suitable for interconnection to the substrate or package.

Properties
AAD005-001   substrate material
AAD006-001   connection requirement code
AAD007-001   substrate connection
AAD012-001   termination number
AAD013-001   manufacturer pad identifier
AAD014-001   pad geometry name
AAD015-001   pad x position
AAD016-001   pad y position
AAD017-001   pad orientation
AAD018-001   number of bond sites
AAD024-001   pad shape
AAD025-001   pad length
AAD026-001   pad width
AAD027-001   number of polygon vertices
AAD028-001   vertex number
AAD029-001   vertex x-coordinate
AAD030-001   vertex y-coordinate
AAD078-001   passivation material
AAD091-001   connection requirement
AAD093-001   substrate connection
AAD116-001   pad geometry count
AAD119-001   backside finish
AAD120-001   pad metallisation
AAD121-001   pad diameter
AAD148-001   bulk material
AAD149-001   maximum assembly temperature

AAA296-001 02

Bumped die   **BUMP**

A set of bare die devices with bumps for connection to a substrate for which the geometric and physical properties of each device can be described by the same set of data element types.

NOTE
BUMPED DIE are unpackaged die or wafers that have had added bumps for interconnection and/or mechanical attachment. Typically these can be die that have had solder or other metallic bumps added to the metallised pads on the die (also known as flip-chip).

Properties
AAD122-001   bump size
AAD123-001   bumped height
AAD124-001   bump material
AAD126-001   underfill
AAD146-001   bump height
AAD147-001   bump height tolerance

AAA297-001 02

Die with attached lead frame   **LEAD**

A set of bare die devices with lead frame for connection to a substrate for which the geometric and physical properties of each device can be described by the same set of data element types.

NOTE
DIE WITH ATTACHED LEAD FRAME are unpackaged die that have had added lead frames or similar terminations connected to the pads on the die to allow interconnection and/or mechanical attachment.

Properties

AAD125-001 lead-frame material
AAD126-001 underfill

AAA298-001 02

Minimally-packaged die devices   MPD

A set of properties for minimally-packaged die devices for which the geometric and physical properties of each device can be described by the same set of data element types.

NOTE
MINIMALLY-PACKAGED DIE DEVICES are die or wafers that have had some exterior packaging medium and interconnection structure added for protection and ease of handling.

Properties

AAD126-001 underfill
AAD150-001 encapsulation material
AAD155-001 MPD delivery form

AAA299-001 01

Two-sided bare die devices   DUAL

A set of properties for bare die devices having connections on both surfaces for which the geometric and physical properties of each device can be described by the same set of data element types.

Properties

AAD005-001 substrate material
AAD013-001 manufacturer pad identifier
AAD014-001 pad geometry name
AAD015-001 pad x position
AAD016-001 pad y position
AAD017-001 pad orientation
AAD018-001 number of bond sites
AAD024-001 pad shape
AAD025-001 pad length
AAD026-001 pad width
AAD027-001 number of polygon vertices
AAD028-001 vertex number
AAD029-001 vertex x-coordinate
AAD030-001 vertex y-coordinate
AAD078-001 passivation material
AAD081-001 die surface
AAD116-001 pad geometry count

AAA301-001 01

Geometry   GEO

A set of industrial products of which each product can be described with the same group of data element types.

AAG000-001 geometry type

Subclasses

AAA302-001 Die devices
AAA303-001 Package outlines

AAA302-001 02

Die devices   DIE

A set of die devices of which each device can be described with the same group of data element types.

NOTE
DIE DEVICES include bare semiconductor die or wafers, with or without connection structures, or minimally-packaged die or wafers.

Properties

AAD001-001 die identifier
AAD002-001 die name
AAD003-001 die version
AAD008-001 die test level code
AAD009-001 die yield
AAD010-001 die description
AAD011-001 wafer size
AAD019-001 signal name
AAD020-001 signal type
AAD021-001 electrical reference
AAD022-001 signal direction
AAD023-001 swap codes
AAD031-001 supply variability
AAD032-001 supply voltage
AAD033-001 pad supply current
AAD049-001 supply name
AAD054-001 supply current
AAD055-001 supply packing code
AAD056-001 supply form code
AAD060-001 test procedure description
AAD070-001 die step dimension x
AAD071-001 die step dimension y
AAD072-001 die thickness
AAD082-001 test name
AAD085-001 die type
AAD086-001 die type description
AAD087-001 supply form
AAD088-001 supply form description
AAD089-001 supply packing
AAD090-001 supply packing description
AAD095-001 die yield code
AAD115-001 geometric units
AAD117-001 size tolerance
AAD118-001 thickness tolerance
AAD127-001 die picture
AAD129-001 die centre x-position
AAD130-001 die centre y-position
AAD131-001 defect rate
AAD132-001 test flow
AAD133-001 temperature specification
AAD134-001 process options
AAD137-001 conformity level
AAD140-001 die manufacturer
AAD141-001 die supplier
AAD142-001 die data source
AAD143-001 packaged part name
AAD144-001 geometric view
AAD145-001 terminal count
AAD151-001 power limit
AAD153-001 test reliability code
AAD154-001 test maturity code
AAD156-001 fiducial name
AAD157-001 fiducial file name
AAD158-001 fiducial width
AAD159-001 fiducial height

AAD160-001 fiducial x position
AAD161-001 fiducial y position
AAD162-001 fiducial orientation

AAD004-001 die type code

Subclasses
AAA295-001 Bare die
AAA299-001 Two-sided bare die devices
AAA296-001 Bumped die
AAA297-001 Die with attached lead frame
AAA298-001 Minimally-packaged die devices

AAA303-001 01

Package outline   PAK

A set of component packages of which each package
can be described with the same group of data
element types.

NOTE
PACKAGE OUTLINE is the geometric description of
the physical shape of a packaged component
including its dimensions.

Properties
AAG037-001 quantity of terminal positions
AAG038-001 quantity of missing terminals
AAG059-001 actual quantity of termination
AAG066-001 drawing reference code
AAG067-001 source document identification
AAG068-001 source document page
AAG069-001 manufacturer package code
AAG070-001 standard package code
AAG071-001 standards document reference
AAG072-001 termination count sequence
AAG073-001 surface-mount flag

AAG057-001 package style code

Subclasses
AAA304-001 bead
AAA305-001 chip carrier
AAA307-001 cylindrical
AAA308-001 disc
AAA309-001 flange mount
AAA311-001 flat pack
AAA312-001 grid array
AAA313-001 in line
AAA314-001 long-form
AAA318-001 post mount
AAA319-001 rectangular
AAA320-001 small outline

AAA304-001 01

bead-shaped   BD

A set of bead package outline styles of which each
outline style can be described with the same group
of data element types.

NOTE
BEAD-SHAPED is a package style in which the body
is spherical or almost spherical.

AAG056-001 terminal position code

Subclasses
AAA322-001 axial
AAA323-001 bottom

AAA305-001 01

chip-carrier   CC

A set of chip-carrier package outline styles of which
each outline style can be described with the same
group of data element types.

NOTE
CHIP-CARRIER is a package style in which the body
has a rectangular in shape and has very short
connections or connections on the surface.

AAG056-001 terminal position code

Subclasses
AAA324-001 quad

AAA307-001 01

cylindrical   CY

A set of cylindrical package outline styles of which
each outline style can be described with the same
group of data element types.

NOTE
CYLINDRICAL is a package style in which the body
is cylindrical with the length no smaller than the
diameter.

AAG056-001 terminal position code

Subclasses
AAA325-001 axial
AAA326-001 bottom
AAA327-001 end
AAA328-001 radial
AAA329-001 upper

AAA308-001 01

disc-shaped   DB

A set of disc package outline styles of which each
outline style can be described with the same group
of data element types.

NOTE
DISC-SHAPED is a package style in which the body
is cylindrical with the length smaller than the
diameter.

AAG056-001 terminal position code

Subclasses
AAA330-001 axial
AAA331-001 bottom

AAA309-001 01

flange-mount   **FM**

A set of flange-mount package outline styles of which each outline style can be described with the same group of data element types.

NOTE
FLANGE-MOUNT is a package style which is intended for mounting by flanges which form part of the package.

AAG056-001 terminal position code

Subclasses
AAA332-001 bottom
AAA333-001 double
AAA334-001 single
AAA335-001 zig-zag

AAA311-001 01

flat-pack   **FP**

A set of flat-pack package outline styles of which each outline style can be described with the same group of data element types.

NOTE
FLAT-PACK is a package style which is intended for mounting and connection by leads extending away from the body in a horizontal plane.

AAG056-001 terminal position code

Subclasses
AAA336-001 double
AAA337-001 quad

AAA312-001 01

grid-array   **GA**

A set of grid-array package outline styles of which each outline style can be described with the same group of data element types.

NOTE
GRID-ARRAY is a package style in which the body has a rectangular shape with leads disposed in regular patterns over one face.

AAG056-001 terminal position code

Subclasses
AAA338-001 bottom
AAA339-001 perpendicular

AAA313-001 01

in-line   **IP**

A set of in-line package outline styles of which each outline style can be described with the same group of data element types.

NOTE
IN-LINE is a package style in which the leads are disposed in one or more rows.

AAG056-001 terminal position code

Subclasses
AAA340-001 double
AAA341-001 quad
AAA342-001 single
AAA343-001 triple
AAA344-001 zig-zag

AAA314-001 01

long-form   **LF**

A set of long-form package outline styles of which each outline style can be described with the same group of data element types.

NOTE
LONG FORM is a package style in which the length is greater than the cross-ectional dimensions but which cannot be described as either cylindrical or rectangular.

AAG056-001 terminal position code

Subclasses
AAA345-001 axial

AAA318-001 01

post-mount   **PM**

A set of post-mount package outline styles of which each outline style can be described with the same group of data element types.

NOTE
POST-MOUNT is a package style in which the package is mounted and fastened by a post or stud.

AAG056-001 terminal position code

Subclasses
AAA346-001 upper

AAA319-001 01

rectangular   **RC**

A set of rectangular package outline styles of which each outline style can be described with the same group of data element types.

NOTE
RECTANGULAR is a package style in which the body approximates to the shape of a rectangular box.

AAG056-001 terminal position code

Subclasses
AAA347-001 axial
AAA348-001 bottom
AAA349-001 end

AAA320-001 01

small-outline   **SO**

A set of small package outline styles of which each outline style can be described with the same group of data element types.

NOTE
SMALL-OUTLINE is a package style which is characterised by small dimensions and which is normally intended for surface-mounting by small gull-wing leads.

AAG056-001 terminal position code

Subclasses
AAA350-001 double
AAA351-001 quad
AAA352-001 single

AAA322-001 01

axial leads   **A**

A set of bead package outline styles with axial leads of which each outline style can be described with the same group of data element types.

NOTE
AXIAL LEADS extend outwards from the package along one of its axes in opposite directions away from the centre of the package.

AAG058-001 terminal shape code

Subclasses
AAA353-001 wire

AAA323-001 01

bottom leads   **B**

A set of bead package outline styles with bottom leads of which each outline style can be described with the same group of data element types.

NOTE
BOTTOM LEADS are leads which emerge from the face of a package which is on or nearest to its mounting plane.

AAG058-001 terminal shape code

Subclasses
AAA354-001 wire

AAA324-001 01

quad   **Q**

A set of quad chip-carrier package outline styles of which each outline style can be described with the same group of data element types.

NOTE
QUAD leads are disposed around all four sides of a rectangular package.

AAG058-001 terminal shape code

Subclasses
AAA355-001 J-bend
AAA356-001 no lead

AAA325-001 01

axial leads   **A**

A set of cylindrical package outline styles with axial leads of which each outline style can be described with the same group of data element types.

NOTE
AXIAL LEADS extend outwards from the package along one of its axes in opposite directions away from the centre of the package.

AAG058-001 terminal shape code

Subclasses
AAA357-001 wire

AAA326-001 01

bottom leads   **B**

A set of cylindrical package outline styles with bottom leads of which each outline style can be described with the same group of data element types.

NOTE
BOTTOM LEADS are leads which emerge from the face of a package which is on or nearest to its mounting plane.

AAG058-001 terminal shape code

Subclasses
AAA358-001 wire

AAA327-001 01

end connections   E

A set of cylindrical package outline styles with end connections of which each outline style can be described with the same group of data element types.

NOTE
END CONNECTIONS are connections formed on or around the ends of a package.

AAG058-001 terminal shape code

Subclasses
AAA359-001 wrap around

AAA328-001 01

radial leads   R

A set of cylindrical package outline styles with radial leads of which each outline style can be described with the same group of data element types.

NOTE
RADIAL LEADS extend outwards from a package in a direction perpendicular to one of the principal axes of the package.

AAG058-001 terminal shape code

Subclasses
AAA360-001 solder lug
AAA361-001 wire

AAA329-001 01

upper connections   U

A set of cylindrical package outline styles with upper connections of which each outline style can be described with the same group of data element types.

NOTE
UPPER CONNECTIONS are connections which emerge from the face of a package which is opposite to the face seated on the mounting plane.

AAG058-001 terminal shape code

Subclasses
AAA362-001 solder lug
AAA363-001 screw

AAA330-001 01

axial leads   A

A set of disc package outline styles with axial leads of which each outline style can be described with the same group of data element types.

NOTE
AXIAL LEADS extend outwards from the package along one of its axes in opposite directions away from the centre of the package.

AAG058-001 terminal shape code

Subclasses
AAA364-001 wire

AAA331-001 01

bottom leads   B

A set of disc package outline styles with bottom leads of which each outline style can be described with the same group of data element types.

NOTE
BOTTOM LEADS are leads which emerge from the face of a package which is on or nearest to its mounting plane.

Properties
AAG058-001 terminal shape code

Subclasses
AAA365-001 wire

AAA332-001 01

bottom leads   B

A set of flange-mount package outline styles with bottom leads of which each outline style can be described with the same group of data element types.

NOTE
BOTTOM LEADS are leads which emerge from the face of a package which is on or nearest to its mounting plane.

AAG058-001 terminal shape code

Subclasses
AAA366-001 pin

AAA333-001 01

double-row leads   **D**

A set of flange-mount package outline styles with a double row of leads of which each outline style can be described with the same group of data element types.

NOTE
DOUBLE-ROW LEADS are leads which are disposed in pairs in two parallel rows.

AAG058-001 terminal shape code

Subclasses
AAA367-001 pin

AAA334-001 01

single-row leads   **S**

A set of flange-mount package outline styles with a single row of leads of which each outline style can be described with the same group of data element types.

NOTE
SINGLE-ROW LEADS are leads which are disposed in a single row along one side of a package.

AAG058-001 terminal shape code

Subclasses
AAA368-001 through hole

AAA335-001 01

zig-zag leads   **Z**

A set of flange-mount package outline styles with leads in a zig-zag pattern of which each outline style can be described with the same group of data element types.

NOTE
ZIG-ZAG LEADS are leads which are disposed in two parallel rows with each lead in a row opposite the space between two leads in the other row.

AAG058-001 terminal shape code

Subclasses
AAA369-001 through-hole

AAA336-001 01

double-row leads   **D**

A set of dual flat-pack package outline styles of which each outline style can be described with the same group of data element types.

NOTE
DOUBLE-ROW LEADS are leads which are disposed in two parallel rows.

AAG058-001 terminal shape code

Subclasses
AAA370-001 flat

AAA337-001 01

quad   **Q**

A set of quad flat-pack package outline styles of which each outline style can be described with the same group of data element types.

NOTE
QUAD leads are disposed around all four sides of a rectangular package.

AAG058-001 terminal shape code

Subclasses
AAA371-001 gull wing

AAA338-001 01

bottom leads   **B**

A set of grid-array package outline styles with bottom leads of which each outline style can be described with the same group of data element types.

NOTE
BOTTOM LEADS are leads which emerge from the face of a package which is on or nearest to its mounting plane.

AAG058-001 terminal shape code

Subclasses
AAA372-001 butt

AAA339-001 01

perpendicular   **P**

A set of pin-grid-array package outline styles of which each outline style can be described with the same group of data element types.

NOTE
PERPENDICULAR LEADS are rigid pins which are disposed over the face of a package and perpendicular to it.

AAG058-001 terminal shape code

Subclasses
AAA373-001 pin

AAA340-001 01

double-row leads   **D**

A set of dual-in-line package outline styles of which each outline style can be described with the same group of data element types.

NOTE
DOUBLE-ROW LEADS are leads which are disposed in a two parallel rows.

AAG058-001 terminal shape code

Subclasses
AAA374-001 pin
AAA375-001 through-hole

AAA341-001 01

quad   **Q**

A set of quad-in-line package outline styles of which each outline style can be described with the same group of data element types.

NOTE
QUAD leads are disposed around all four sides of a rectangular package.

AAG058-001 terminal shape code

Subclasses
AAA376-001 through-hole

AAA342-001 01

single-row leads   **S**

A set of single-in-line package outline styles of which each outline style can be described with the same group of data element types.

NOTE
SINGLE-ROW LEADS are leads which are disposed in a single row along one side of a package.

AAG058-001 terminal shape code

Subclasses
AAA377-001 through-hole

AAA343-001 01

triple row   **T**

A set of triple-in-line package outline styles of which each outline style can be described with the same group of data element types.

NOTE
SINGLE-ROW LEADS are leads which are disposed in a single row along one side of a package.

AAG058-001 terminal shape code

Subclasses
AAA378-001 through-hole

AAA344-001 01

zig-zag leads   **Z**

A set of zigzag-in-line package outline styles of which each outline style can be described with the same group of data element types.

NOTE
ZIG-ZAG LEADS are leads which are disposed in two parallel rows with each lead in a row opposite the space between two leads in the other row.

AAG058-001 terminal shape code

Subclasses
AAA379-001 through-hole

AAA345-001 01

axial leads   **A**

A set of long-form package outline styles with axial leads of which each outline style can be described with the same group of data element types.

NOTE
AXIAL LEADS extend outwards from the package along one of its axes in opposite directions away from the centre of the package.

AAG058-001 terminal shape code

Subclasses
AAA380-001 wire

AAA346-001 01

upper connections   **U**

A set of post-mount package outline styles with upper connections of which each outline style can be described with the same group of data element types.

NOTE
UPPER CONNECTIONS are connections which emerge from the face of a package which is opposite to the face seated on the mounting plane.

AAG058-001 terminal shape code

Subclasses
AAA381-001 solder lug
AAA382-001 high current cable

AAA347-001 01

axial leads   **A**

A set of rectangular package outline styles with axial leads of which each outline style can be described with the same group of data element types.

NOTE
AXIAL LEADS extend outwards from the package along one of its axes in opposite directions away from the centre of the package.

AAG058-001 terminal shape code

Subclasses
AAA383-001   solder lug
AAA384-001   wire

AAA348-001 01

bottom leads   **B**

A set of rectangular package outline styles with bottom leads of which each outline style can be described with the same group of data element types.

NOTE
BOTTOM LEADS are leads which emerge from the face of a package which is on or nearest to its mounting plane.

AAG058-001 terminal shape code

Subclasses
AAA385-001   wire

AAA349-001 01

end connections   **E**

A set of rectangular package outline styles with end connections of which each outline style can be described with the same group of data element types.

NOTE
END CONNECTIONS are connections formed on or around the ends of a package.

AAG058-001 terminal shape code

Subclasses
AAA386-001   no lead
AAA387-001   wraparound

AAA350-001 01

double-row leads   **D**

A set of dual small package outline styles of which each outline style can be described with the same group of data element types.

NOTE
DOUBLE-ROW LEADS are leads which are disposed in a two parallel rows

AAG058-001 terminal shape code

Subclasses
AAA388-001   gull-wing

AAA351-001 01

quad   **Q**

A set of quad small package outline styles of which each outline style can be described with the same group of data element types.

NOTE
QUAD leads are disposed around all four sides of a rectangular package.

AAG058-001 terminal shape code

Subclasses
AAA389-001   gull-wing

AAA352-001 01

single-row leads   **S**

A set of single small package outline styles of which each outline style can be described with the same group of data element types.

NOTE
SINGLE-ROW LEADS are leads which are disposed in a single row along one side of a package.

AAG058-001 terminal shape code

Subclasses
AAA390-001   gull-wing

AAA353-001 01

wire   **W**

A set of bead package outline styles with axial wire leads of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA391-001   straight leads

AAA354-001 01

wire   **W**

A set of bead package outline styles with bottom wire leads of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA392-001   straight leads
AAA393-001   formed leads

AAA355-001 01

J-bend   **J**

A set of quad chip-carrier package outline styles with J-bend leads of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA394-001   standard form

AAA356-001 01

no-lead   **N**

A set of quad leadless chip-carrier package outline styles of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA395-001   standard form

AAA357-001 01

wire   **W**

A set of cylindrical package outline styles with axial wire leads of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA396-001   straight leads

AAA358-001 01

wire   **W**

A set of cylindrical package outline styles with bottom wire leads of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA397-001   leads on a circle
AAA398-001   straight leads in line
AAA399-001   formed leads in line
AAA400-001   leads on a square grid
AAA401-001   offset leads

AAA359-001 01

wrap-around   **R**

A set of cylindrical package outline styles with wrap-around end connections of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA402-001   standard form

AAA360-001 01

solder lug   **D**

A set of cylindrical package outline styles with radial solder-lug leads of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA403-001   straight leads

AAA361-001 01

wire   **W**

A set of cylindrical package outline styles with radial wire leads of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA404-001   straight leads

AAA362-001 01

solder lug   **D**

A set of cylindrical package outline styles with upper solder-lug connections of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA405-001   standard form

AAA363-001 01

screw   Y

A set of cylindrical package outline styles with upper screw connections of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA406-001   standard form

AAA364-001 01

wire   W

A set of disc package outline styles with axial wire leads of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA407-001   straight leads

AAA365-001 01

wire   W

A set of disc package outline styles with bottom wire leads of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA408-001   straight leads
AAA409-001   formed leads

AAA366-001 01

pin   P

A set of flange-mount package outline styles with bottom pins of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA410-001   offset leads
AAA411-001   leads on a circle

AAA367-001 01

pin   P

A set of flange-mount package outline styles with a double row of pins of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA412-001   round pins

AAA368-001 01

through-hole   T

A set of flange-mount package outline styles with a single row of through-hole leads of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA413-001   straight flat leads
AAA414-001   straight V-section leads

AAA369-001 01

through-hole   T

A set of flange-mount package outline styles with through-hole leads in a zig-zag pattern of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA415-001   straight flat leads
AAA416-001   straight V-section leads

AAA370-001 01

flat   F

A set of dual flat-pack package outline styles with flat leads of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA417-001   straight flat leads

AAA371-001 01

gull wing   G

A set of quad flat-pack package outline styles with gull-wing leads of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA418-001   standard form

AAA372-001 01

butt   **B**

A set of grid-array package outline styles with bottom butt leads of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA419-001   solder balls

AAA373-001 01

pin   **P**

A set of pin-grid-array package outline styles with pin leads of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA420-001   round pins

AAA374-001 01

pin   **P**

A set of dual-in-line package outline styles with pin leads of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA421-001   round pins
AAA422-001   rectangular pins

AAA375-001 01

through-hole   **T**

A set of dual-in-line package outline styles with through-hole leads of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA423-001   standard form

AAA376-001 01

through-hole   **T**

A set of quad-in-line package outline styles with through-hole leads of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA424-001   standard form

AAA377-001 01

through-hole   **T**

A set of single-in-line package outline styles with through-hole leads of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA425-001   standard form

AAA378-001 01

through-hole   **T**

A set of triple-in-line package outline styles with through-hole leads of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA426-001   standard form

AAA379-001 01

through-hole   **T**

A set of zigzag-in-line package outline styles with through-hole leads of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA427-001   standard form

AAA380-001 01

wire   **W**

A set of long-form package outline styles with axial wire leads of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA428-001   straight leads

AAA381-001 01

solder lug   **D**

A set of post-mount package outline styles with upper solder-lug connections of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA429-001   one fixed tag
AAA430-001   two fixed tags

AAA382-001 01

high current cable   **H**

A set of post-mount package outline styles with upper high-current cable connections of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA431-001   one lead with tag
AAA432-001   two leads with tags
AAA433-001   three leads with tag
AAA434-001   one lead no tag

AAA383-001 01

solder lug   **D**

A set of rectangular package outline styles with axial solder lugs of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA435-001   strip leads

AAA384-001 01

wire   **W**

A set of rectangular package outline styles with axial wire leads of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA436-001   off-set leads

AAA385-001 01

wire   **W**

A set of rectangular package outline styles with bottom wire leads of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA437-001   straight leads
AAA438-001   formed leads

AAA386-001 01

no lead   **N**

A set of leadless rectangular package outline styles with end connections of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA439-001   standard form

AAA387-001 01

wrap-around   **R**

A set of rectangular package outline styles with wrap-around end connections of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA440-001   standard form

AAA388-001 01

gull-wing   **G**

A set of dual small package outline styles with gull-wing leads of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA441-001   multiple leads
AAA442-001   three leads

AAA389-001 01

gull-wing   **G**

A set of quad small package outline styles with gull-wing leads of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA443-001   standard form

AAA390-001 01

gull-wing   **G**

A set of single small package outline styles with gull-wing leads of which each outline style can be described with the same group of data element types.

AAG054-001 terminal variant code

Subclasses
AAA444-001   two leads, stub and tab

AAA391-001 01

straight leads   **T001**

A set of bead package outline styles with straight axial wire leads of which each outline style can be described with the same group of data element types.

Properties
AAG009-001   terminal diameter
AAG014-001   package diameter
AAG089-001   package length
AAG090-001   overall length
AAG091-001   bent terminal spacing
AAG111-001   terminal length

DAA001-001 Bead package, straight axial wire leads

AAA392-001 01

straight leads   **T001**

A set of bead package outline styles with straight bottom wire leads of which each outline style can be described with the same group of data element types

Properties
AAG001-001   seated height
AAG009-001   terminal diameter
AAG013-001   package length
AAG016-001   package width
AAG017-001   terminal spacing
AAG129-001   terminal length

DAA002-001 Bead package, straight bottom wire leads

AAA393-001 01

formed leads   **T002**

A set of bead package outline styles with formed bottom wire leads of which each outline style can be described with the same group of data element types.

Properties
AAG001-001   seated height
AAG009-001   terminal diameter
AAG013-001   package length
AAG016-001   package width
AAG017-001   terminal spacing
AAG129-001   terminal length

DAA003-001 Bead package, formed bottom wire leads

AAA394-001 01

standard form   **T000**

A set of quad chip-carrier package outline styles with standard J-bend leads of which each outline style can be described with the same group of data element types.

AAG055-001 body variant code

Subclasses
AAA445-001   non-bumped package

AAA395-001 01

standard form   **T000**

A set of quad leadless chip-carrier package outline styles with standard leads of which each outline style can be described with the same group of data element types.

AAG055-001 body variant code

Subclasses
AAA446-001   Non-cavity package (moulded)
AAA447-001   cavity package (ceramic)

AAA396-001 01

straight leads   **T001**

A set of cylindrical package outline styles with straight axial wire leads of which each outline style can be described with the same group of data element types.

AAG055-001 body variant code

Subclasses
AAA448-001   plain cylindrical
AAA449-001   top hat package

AAA397-001 01

leads on a circle   **T003**

A set of cylindrical package outline styles with bottom wire leads on a circle of which each outline style can be described with the same group of data element types.

Properties
AAG001-001   seated height
AAG004-001   terminal circle diameter
AAG009-001   terminal diameter
AAG014-001   package diameter
AAG026-001   index height
AAG027-001   index width
AAG028-001   index length
AAG029-001   terminal length
AAG047-001   index datum angle
AAG049-001   angular terminal spacing
AAG062-001   package diameter

DAA004-001 Cylindrical package, bottom leads on circle

AAA398-001 01

straight leads in line   **T004**

A set of cylindrical package outline styles with straight in-line bottom wire leads of which each outline style can be described with the same group of data element types.

Properties
AAG001-001   seated height
AAG008-001   terminal width
AAG009-001   terminal diameter
AAG012-001   terminal thickness
AAG014-001   package diameter
AAG016-001   package width
AAG017-001   terminal spacing
AAG027-001   index width
AAG044-001   terminal reference position
AAG129-001   terminal length

DAA005-001 Cylindrical package, straight in-line bottom leads

AAA399-001   01

formed leads in line   **T005**

A set of cylindrical package outline styles with formed in-line bottom wire leads of which each outline style can be described with the same group of data element types.

Properties
AAG001-001   seated height
AAG002-001   stand-off height
AAG003-001   package height
AAG008-001   terminal width
AAG009-001   terminal diameter
AAG012-001   terminal thickness
AAG014-001   package diameter
AAG016-001   package width
AAG017-001   terminal spacing
AAG027-001   index width
AAG044-001   terminal reference position
AAG129-001   terminal length

DAA006-001 Cylindrical package, formed in-line bottom leads

AAA400-001 01

leads on a square grid   **T006**

A set of cylindrical package outline styles with bottom wire leads on a square grid of which each outline style can be described with the same group of data element types.

Properties
AAG001-001   seated height
AAG009-001   terminal diameter
AAG014-001   package diameter
AAG017-001   terminal spacing
AAG018-001   flange zone height
AAG027-001   index width
AAG028-001   index length
AAG053-001   terminal row spacing
AAG062-001   package diameter
AAG080-001   terminal row spacing
AAG129-001   terminal length

DAA007-001 Cylindrical package, bottom leads on square grid

AAA401-001 01

offset leads   **T007**

A set of cylindrical package outline styles with offset bottom wire leads of which each outline style can be described with the same group of data element types.

Properties
AAG001-001   seated height
AAG009-001   terminal diameter
AAG014-001   package diameter
AAG017-001   terminal spacing
AAG044-001   terminal reference position
AAG129-001   terminal length

DAA008-001 Cylindrical package, offset in-line bottom leads

AAA402-001 01

standard form   **T000**

A set of cylindrical package outline styles with wrap-around end connections in standard form of which each outline style can be described with the same group of data element types.

Properties
AAG009-001 terminal diameter
AAG014-001 package diameter
AAG077-001 terminal length
AAG090-001 overall length
AAG104-001 drawing sequence code

DAA009-001 Cylindrical package, wrap-around terminations

AAA403-001 01

straight leads   **T001**

A set of cylindrical package outline styles with straight radial solder-lug leads of which each outline style can be described with the same group of data element types.

Properties
AAG001-001 seated height
AAG008-001 terminal width
AAG012-001 terminal thickness
AAG014-001 package diameter
AAG017-001 terminal spacing
AAG089-001 package length
AAG129-001 terminal length

DAA010-001 Cylindrical package, radial tag leads

AAA404-001 01

straight leads   **T001**

A set of cylindrical package outline styles with straight radial wire leads of which each outline style can be described with the same group of data element types.

Properties
AAG001-001 seated height
AAG009-001 terminal diameter
AAG014-001 package diameter
AAG017-001 terminal spacing
AAG089-001 package length
AAG129-001 terminal length

DAA011-001 Cylindrical package, radial wire leads

AAA405-001 01

standard form   **T000**

A set of cylindrical package outline styles with upper solder-lug connections in standard form of which each outline style can be described with the same group of data element types.

AAG055-001 body variant code

Subclasses
AAA450-001 clamp mount package
AAA451-001 stud mount package

AAA406-001 01

standard form   **T000**

A set of cylindrical package outline styles with upper screw connections in standard form of which each outline style can be described with the same group of data element types.

AAG055-001 body variant code

Subclasses
AAA452-001 clamp mount package
AAA453-001 stud mount package

AAA407-001 01

straight leads   **T001**

A set of disc package outline styles with straight axial wire leads of which each outline style can be described with the same group of data element types.

Properties
AAG009-001 terminal diameter
AAG014-001 package diameter
AAG089-001 package length
AAG090-001 overall length
AAG091-001 bent terminal spacing
AAG111-001 terminal length

DAA012-001 Disc package, straight axial wire leads

AAA408-001 01

straight leads   **T001**

A set of disc package outline styles with straight bottom wire leads of which each outline style can be described with the same group of data element types.

Properties
AAG001-001 seated height
AAG009-001 terminal diameter
AAG013-001 package length
AAG016-001 package width
AAG017-001 terminal spacing
AAG129-001 terminal length

DAA013-001 Disc package, straight bottom leads

AAA409-001 01

formed leads   **T002**

A set of disc package outline styles with formed
bottom wire leads of which each outline style can be
described with the same group of data element types

Properties
AAG001-001   seated height
AAG009-001   terminal diameter
AAG013-001   package length
AAG016-001   package width
AAG017-001   terminal spacing
AAG129-001   terminal length

DAA014-001 Disc package, formed bottom leads

AAA410-001 01

offset leads   **T007**

A set of flange-mount package outline styles with
offset bottom pins of which each outline style can be
described with the same group of data element
types.

Properties
AAG001-001   seated height
AAG009-001   terminal diameter
AAG014-001   package diameter
AAG017-001   terminal spacing
AAG018-001   flange zone height
AAG029-001   terminal length
AAG039-001   mounting hole diameter
AAG042-001   mounting hole separation
AAG045-001   terminal reference position
AAG083-001   larger flange radius
AAG084-001   smaller flange radius
AAG085-001   flange overall length
AAG086-001   flange overall width
AAG108-001   terminal reference position

DAA015-001 Oval flange-mount package, offset
bottom leads

AAA411-001 01

leads on a circle   **T003**

A set of flange-mount package outline styles with
bottom pins on a circle of which each outline style
can be described with the same group of data
element types.

Properties
AAG001-001   seated height
AAG004-001   terminal circle diameter
AAG009-001   terminal diameter
AAG014-001   package diameter
AAG018-001   flange zone height
AAG029-001   terminal length
AAG039-001   mounting hole diameter
AAG042-001   mounting hole separation
AAG047-001   index datum angle
AAG049-001   angular terminal spacing
AAG083-001   larger flange radius

AAG084-001   smaller flange radius
AAG085-001   flange overall length
AAG086-001   flange overall width

DAA016-001 Oval flange-mount package, bottom
leads on circle

AAA412-001 01

round pins   **T009**

A set of flange-mount package outline styles with a
double row of round pins of which each outline style
can be described with the same group of data
element types.

Properties
AAG001-001   seated height
AAG009-001   terminal diameter
AAG013-001   package length
AAG016-001   package width
AAG017-001   terminal spacing
AAG019-001   flange height
AAG027-001   index width
AAG029-001   terminal length
AAG039-001   mounting hole diameter
AAG040-001   terminal emergence height
AAG042-001   mounting hole separation
AAG043-001   curve radius
AAG046-001   package overhang
AAG053-001   terminal row spacing
AAG081-001   lid length

DAA017-001 Flange-mount package, dual-in-line
leads

AAA413-001 01

straight flat leads   **T011**

A set of flange-mount package outline styles with a
single row of straight, flat, through-hole leads of
which each outline style can be described with the
same group of data element types.

Properties
AAG001-001   seated height
AAG005-001   stand-off major dimension
AAG008-001   terminal width
AAG012-001   terminal thickness
AAG013-001   package length
AAG016-001   package width
AAG017-001   terminal spacing
AAG018-001   flange zone height
AAG031-001   terminal length
AAG039-001   mounting hole diameter
AAG040-001   terminal emergence height
AAG042-001   mounting hole separation
AAG063-001   flange length
AAG111-001   terminal length

DAA018-001 Flange-mount package, single row,
straight flat leads

AAA414-001 01

straight V-section leads   **T023**

A set of flange-mount package outline styles with a single row of straight, V-section, through-hole leads of which each outline style can be described with the same group of data element types.

Properties
AAG001-001 seated height
AAG005-001 stand-off major dimension
AAG009-001 terminal diameter
AAG013-001 package length
AAG016-001 package width
AAG017-001 terminal spacing
AAG018-001 flange zone height
AAG031-001 terminal length
AAG039-001 mounting hole diameter
AAG040-001 terminal emergence height
AAG042-001 mounting hole separation
AAG063-001 flange length
AAG111-001 terminal length

DAA019-001 Flange-mount package, single row, straight V-section leads

AAA415-001 01

straight flat leads   **T011**

A set of flange-mount package outline styles with straight, flat, through-hole leads in a zig-zag pattern of which each outline style can be described with the same group of data element types.

AAA416-001 01

straight V-section leads   **T023**

A set of flange-mount package outline styles with straight, V-section, through-hole leads in a zig-zag pattern of which each outline style can be described with the same group of data element types.

AAA417-001 01

straight flat leads   **T011**

A set of dual flat-pack package outline styles with straight, flat leads of which each outline style can be described with the same group of data element types.

Properties
AAG001-001 seated height
AAG008-001 terminal width
AAG012-001 terminal thickness
AAG013-001 package length
AAG016-001 package width
AAG017-001 terminal spacing
AAG021-001 package width zone
AAG024-001 overall width
AAG034-001 terminal length
AAG040-001 terminal emergence height
AAG046-001 package overhang

DAA020-001 Dual flat pack

AAA418-001 01

standard form   **T000**

A set of quad flat-pack package outline styles with gull-wing leads in standard form of which each outline style can be described with the same group of data element types.

AAG055-001 body variant code

Subclasses
AAA454-001 non-bumped package

AAA419-001 01

solder ball   **T012**

A set of grid-array package outline styles with bottom solder balls of which each outline style can be described with the same group of data element types.

Properties
AAG001-001 seated height
AAG002-001 stand-off height
AAG003-001 package height
AAG009-001 terminal diameter
AAG013-001 package length
AAG016-001 package width
AAG017-001 terminal spacing
AAG053-001 terminal row spacing
AAG080-001 terminal row spacing
AAG107-001 terminal pattern
AAG109-001 quantity of terminal positions
AAG110-001 quantity of terminal positions
AAG112-001 terminal reference position
AAG113-001 terminal reference position

DAA021-001 Ball-grid array package

AAA420-001   01

round pin   **T009**

A set of pin-grid-array package outline styles with round pins of which each outline style can be described with the same group of data element types.

AAG055-001 body variant code

Subclasses
AAA455-001 cavity up
AAA456-001 cavity down

AAA421-001 01

round pin   **T009**

A set of dual-in-line package outline styles with rectangular pins of which each outline style can be described with the same group of data element types.

Properties
AAG001-001 seated height
AAG002-001 stand-off height
AAG003-001 package height
AAG009-001 terminal diameter
AAG013-001 package length
AAG016-001 package width
AAG017-001 terminal spacing
AAG029-001 terminal length
AAG044-001 terminal reference position
AAG046-001 package overhang
AAG053-001 terminal row spacing

DAA022-001 Dual-in-line package, rectangular pins

AAA422-001 01

rectangular pin   **T010**

A set of dual-in-line package outline styles with round pins of which each outline style can be described with the same group of data element types.

Properties
AAG001-001 seated height
AAG002-001 stand-off height
AAG003-001 package height
AAG008-001 terminal width
AAG012-001 terminal thickness
AAG013-001 package length
AAG016-001 package width
AAG017-001 terminal spacing
AAG029-001 terminal length
AAG044-001 terminal reference position
AAG046-001 package overhang
AAG053-001 terminal row spacing

DAA023-001 Dual-in-line package, round pins

AAA423-001 01

standard form   **T000**

A set of dual-in-line package outline styles with through-hole leads in standard form of which each outline style can be described with the same group of data element types.

Properties
AAG001-001 seated height
AAG002-001 stand-off height
AAG003-001 package height
AAG005-001 stand-off major dimension
AAG008-001 terminal width
AAG012-001 terminal thickness
AAG013-001 package length
AAG016-001 package width

AAG017-001 terminal spacing
AAG029-001 terminal length
AAG036-001 mounted width
AAG046-001 package overhang
AAG051-001 angular terminal spread
AAG087-001 terminal row spacing
AAG088-001 terminal row splay

DAA024-001 Dual-in-line package, standard through-hole leads

AAA424-001 01

standard form   **T000**

A set of quad-in-line package outline styles with through-hole leads in standard form of which each outline style can be described with the same group of data element types.

AAA425-001 01

standard form   **T000**

A set of single-in-line package outline styles with through-hole leads in standard form of which each outline style can be described with the same group of data element types.

AAA426-001 01

standard form   **T000**

A set of triple-in-line package outline styles with through-hole leads in standard form of which each outline style can be described with the same group of data element types

AAA427-001 01

standard form   **T000**

A set of zigzag-in-line package outline styles with through-hole leads in standard form of which each outline style can be described with the same group of data element types.

AAA428-001   **01**

straight leads   **T001**

A set of long-form package outline styles with straight axial wire leads of which each outline style can be described with the same group of data element types.

AAA429-002 01

one fixed tag   **T013**

A set of post-mount package outline styles with one upper solder-lug connection of which each outline style can be described with the same group of data element types.

Properties
AAG001-001   seated height
AAG014-001   package diameter
AAG018-001   flange zone height
AAG062-001   package diameter
AAG092-001   package height zone
AAG093-002   stud thread diameter
AAG095-001   stud length
AAG096-001   stud thread
AAG116-001   package diameter
AAG118-001   tag hole diameter
AAG131-001   hexagon width
AAG133-001   non-threaded stud length

DAA025-002 Stud-mount package, one fixed tag

AAA430-002 01

two fixed tags   **T014**

A set of post-mount package outline styles with two upper solder-lug connections of which each outline style can be described with the same group of data element types.

Properties
AAG014-001   package diameter
AAG018-001   flange zone height
AAG062-001   package diameter
AAG092-001   package height zone
AAG093-002   stud thread diameter
AAG095-001   stud length
AAG096-001   stud thread
AAG119-001   tag hole diameter
AAG120-001   tag hole diameter
AAG131-001   hexagon width
AAG133-001   non-threaded stud length

DAA026-002 Stud-mount package, two fixed tags

AAA431-002 01

one lead with tag   **T015**

A set of post-mount package outline styles with one upper high-current cable connection with tag of which each outline style can be described with the same group of data element types.

Properties
AAG014-001   package diameter
AAG018-001   flange zone height
AAG062-001   package diameter
AAG093-002   stud thread diameter
AAG095-001   stud length
AAG096-001   stud thread
AAG118-001   tag hole diameter
AAG121-001   tag hole distance

AAG124-001   height zone
AAG131-001   hexagon width
AAG133-001   non-threaded stud length

DAA027-002 Stud-mount package, one flexible lead with tag

AAA432-002 01

two leads with tags   **T016**

A set of post-mount package outline styles with two upper high-current cable connections with tags of which each outline style can be described with the same group of data element types.

Properties
AAG014-001   package diameter
AAG018-001   flange zone height
AAG062-001   package diameter
AAG093-002   stud thread diameter
AAG095-001   stud length
AAG096-001   stud thread
AAG119-001   tag hole diameter
AAG120-001   tag hole diameter
AAG122-001   tag hole distance
AAG123-001   tag hole distance
AAG124-001   height zone
AAG131-001   hexagon width
AAG133-001   non-threaded stud length

DAA028-002 Stud-mount package, two flexible leads with tags

AAA433-002 01

three leads with tag   **T017**

A set of post-mount package outline styles with three upper high-current cable connections with tags of which each outline style can be described with the same group of data element types.

Properties
AAG014-001   package diameter
AAG018-001   flange zone height
AAG062-001   package diameter
AAG093-002   stud thread diameter
AAG095-001   stud length
AAG096-001   stud thread
AAG119-001   tag hole diameter
AAG120-001   tag hole diameter
AAG122-001   tag hole distance
AAG123-001   tag hole distance
AAG124-001   height zone
AAG131-001   hexagon width
AAG133-001   non-threaded stud length

DAA029-002 Stud-mount package, three flexible leads with tags

AAA434-002 01

one lead no tag   **T018**

A set of post-mount package outline styles with one upper high-current cable connection without tag of which each outline style can be described with the same group of data element types.

Properties
AAG001-001 seated height
AAG009-001 terminal diameter
AAG014-001 package diameter
AAG018-001 flange zone height
AAG062-001 package diameter
AAG093-002 stud thread diameter
AAG095-001 stud length
AAG096-001 stud thread
AAG116-001 package diameter
AAG124-001 height zone
AAG125-001 overall height
AAG131-001 hexagon width
AAG133-001 non-threaded stud length

DAA030-002 Stud-mount package, one flexible lead, no tag

AAA435-001 01

strip leads   **T019**

A set of rectangular package outline styles with axial strip leads of which each outline style can be described with the same group of data element types.

Properties
AAG001-001 seated height
AAG008-001 terminal width
AAG012-001 terminal thickness
AAG013-001 package length
AAG016-001 package width
AAG111-001 terminal length

DAA031-001 Rectangular package, axial strip leads

AAA436-001 01

off-set leads   **T007**

A set of rectangular package outline styles with axial offset solder lugs of which each outline style can be described with the same group of data element types.

Properties
AAG001-001 seated height
AAG009-001 terminal diameter
AAG013-001 package length
AAG016-001 package width
AAG044-001 terminal reference position
AAG090-001 overall length
AAG091-001 bent terminal spacing
AAG111-001 terminal length

DAA032-001 Rectangular package, offset axial wire leads

AAA437-001 01

straight leads   **T001**

A set of rectangular package outline styles with straight bottom wire leads of which each outline style can be described with the same group of data element types.

Properties
AAG001-001 seated height
AAG009-001 terminal diameter
AAG013-001 package length
AAG016-001 package width
AAG017-001 terminal spacing
AAG129-001 terminal length

DAA033-001 Rectangular package, straight bottom leads

AAA438-001 01

formed leads   **T002**

A set of rectangular package outline styles with formed bottom wire leads of which each outline style can be described with the same group of data element types.

Properties
AAG001-001 seated height
AAG009-001 terminal diameter
AAG013-001 package length
AAG016-001 package width
AAG017-001 terminal spacing
AAG129-001 terminal length

DAA034-001 Rectangular package, formed bottom leads

AAA439-001 01

standard form   **T000**

A set of leadless rectangular package outline styles in standard form with end connections of which each outline style can be described with the same group of data element types.

Properties
AAG001-001 seated height
AAG013-001 package length
AAG016-001 package width
AAG031-001 terminal length
AAG032-001 terminal length

DAA035-001 Rectangular package, metallised ends

AAA440-001 01

standard form   **T000**

A set of rectangular package outline styles with
wrap-around end connections in standard form of
which each outline style can be described with the
same group of data element types.

Properties
AAG001-001   seated height
AAG002-001   stand-off height
AAG016-001   package width
AAG040-001   terminal emergence height
AAG052-001   terminal seating angle
AAG076-001   terminal width
AAG077-001   terminal length
AAG090-001   overall length
AAG104-001   drawing sequence code
AAG105-001   bent terminal spacing

DAA036-001 Rectangular package, wrap-around
terminations

AAA441-001 01

multiple leads   **T020**

A set of dual small package outline styles with
multiple gull-wing leads of which each outline style
can be described with the same group of data
element types.

Properties
AAG001-001   seated height
AAG002-001   stand-off height
AAG003-001   package height
AAG012-001   terminal thickness
AAG013-001   package length
AAG016-001   package width
AAG017-001   terminal spacing
AAG024-001   overall width
AAG034-001   terminal length
AAG046-001   package overhang
AAG052-001   terminal seating angle
AAG076-001   terminal width
AAG077-001   terminal length

DAA037-001 Dual small-outline package, multiple
gull-wing leads

AAA442-001 01

three leads   **T021**

A set of dual small package outline styles with three
gull-wing leads of which each outline style can be
described with the same group of data element
types.

Properties
AAG001-001   seated height
AAG002-001   stand-off height
AAG003-001   package height
AAG012-001   terminal thickness
AAG013-001   package length
AAG016-001   package width

AAG017-001   terminal spacing
AAG024-001   overall width
AAG034-001   terminal length
AAG046-001   package overhang
AAG052-001   terminal seating angle
AAG076-001   terminal width
AAG077-001   terminal length

DAA038-001 Small-outline package, three gull-wing
leads

AAA443-001 01

standard form   **T000**

A set of quad small package outline styles with gull-
wing leads in standard form of which each outline
style can be described with the same group of data
element types.

AAA444-001 01

two leads, stub and tab   **T022**

A set of single small package outline styles with two
gull-wing leads, a stub and a tab of which each
outline style can be described with the same group
of data element types.

Properties
AAG001-001   seated height
AAG012-001   terminal thickness
AAG013-001   package length
AAG016-001   package width
AAG017-001   terminal spacing
AAG019-001   flange height
AAG031-001   terminal length
AAG034-001   terminal length
AAG040-001   terminal emergence height
AAG063-001   flange length
AAG076-001   terminal width
AAG077-001   terminal length
AAG114-001   flange width

DAA039-001 Small-outline package, two gull-wing
leads, stub and tab

AAA445-001 01

non-bumped package   **B002**

A set of quad non-bumped chip-carrier package
outline styles with standard J-bend leads of which
each outline style can be described with the same
group of data element types.

Properties
AAG001-001   seated height
AAG002-001   stand-off height
AAG003-001   package height
AAG013-001   package length
AAG016-001   package width
AAG017-001   terminal spacing
AAG023-001   overall length
AAG024-001   overall width
AAG028-001   index length

AAG053-001 terminal row spacing
AAG076-001 terminal width
AAG077-001 terminal length
AAG079-001 other index length
AAG080-001 terminal row spacing
AAG109-001 quantity of terminal positions
AAG110-001 quantity of terminal positions
AAG130-001 index angle

DAA040-001 Quad chip carrier, J-bend leads, non-bumped package

AAA446-001 01

Non-cavity package (moulded)   B009

A set of quad leadless chip-carrier non-cavity package outline styles with standard leads of which each outline style can be described with the same group of data element types.

Properties
AAG001-001 seated height
AAG013-001 package length
AAG016-001 package width
AAG017-001 terminal spacing
AAG028-001 index length
AAG053-001 terminal row spacing
AAG076-001 terminal width
AAG077-001 terminal length
AAG078-001 lid height
AAG080-001 terminal row spacing
AAG081-001 lid length
AAG082-001 lid width
AAG109-001 quantity of terminal positions
AAG110-001 quantity of terminal positions
AAG112-001 terminal reference position
AAG113-001 terminal reference position
AAG115-001 index terminal length

DAA041-001 Quad chip carrier, leadless non-cavity package (moulded)

AAA447-001 01

cavity package (ceramic)   B010

A set of quad leadless chip-carrier cavity package outline styles with standard leads of which each outline style can be described with the same group of data element types.

Properties
AAG001-001 seated height
AAG013-001 package length
AAG016-001 package width
AAG017-001 terminal spacing
AAG028-001 index length
AAG053-001 terminal row spacing
AAG076-001 terminal width
AAG077-001 terminal length
AAG078-001 lid height
AAG079-001 other index length
AAG080-001 terminal row spacing
AAG081-001 lid length
AAG082-001 lid width
AAG109-001 quantity of terminal positions

AAG110-001 quantity of terminal positions
AAG112-001 terminal reference position
AAG113-001 terminal reference position
AAG115-001 index terminal length

DAA042-001 Quad chip carrier, leadless cavity package (ceramic)

AAA448-001 01

plain cylindrical   B003

A set of plain cylindrical package outline styles with straight axial wire leads of which each outline style can be described with the same group of data element types.

Properties
AAG009-001 terminal diameter
AAG014-001 package diameter
AAG089-001 package length
AAG090-001 overall length
AAG091-001 bent terminal spacing
AAG111-001 terminal length

DAA043-001 Cylindrical package, straight axial wire leads

AAA449-001 01

top hat package   B004

A set of top-hat cylindrical package outline styles with straight axial wire leads of which each outline style can be described with the same group of data element types.

Properties
AAG001-001 seated height
AAG009-001 terminal diameter
AAG014-001 package diameter
AAG018-001 flange zone height
AAG062-001 package diameter
AAG091-001 bent terminal spacing
AAG098-001 main terminal length
AAG099-001 secondary terminal length
AAG100-001 main overall length
AAG101-001 secondary overall length
AAG102-001 slug diameter
AAG103-001 slug width

DAA044-001 Top-hat package, straight axial wire leads

AAA450-001 01

clamp mount package   B005

A set of cylindrical clamp-mount package outline styles with upper solder-lug connections in standard form of which each outline style can be described with the same group of data element types.

Properties

AAG001-001 seated height
AAG008-001 terminal width
AAG012-001 terminal thickness
AAG014-001 package diameter
AAG017-001 terminal spacing
AAG111-001 terminal length
AAG117-001 tag hole width

DAA045-001 Cylindrical package, top tag terminals, clamp mount

AAA451-002 01

stud mount package   **B006**

A set of cylindrical stud-mount package outline styles with upper solder-lug connections in standard form of which each outline style can be described with the same group of data element types.

Properties

AAG001-001 seated height
AAG008-001 terminal width
AAG012-001 terminal thickness
AAG014-001 package diameter
AAG017-001 terminal spacing
AAG092-001 package height zone
AAG093-002 stud thread diameter
AAG095-001 stud length
AAG096-001 stud thread
AAG111-001 terminal length
AAG117-001 tag hole width
AAG133-001 non-threaded stud length

DAA046-002 Cylindrical package, top tag terminals, stud mount

AAA452-001 01

clamp mount package   **B005**

A set of cylindrical clamp-mount package outline styles with upper screw connections in standard form of which each outline style can be described with the same group of data element types.

Properties

AAG001-001 seated height
AAG008-001 terminal width
AAG012-001 terminal thickness
AAG014-001 package diameter
AAG017-001 terminal spacing
AAG092-001 package height zone
AAG094-002 terminal thread diameter
AAG097-001 terminal thread

DAA047-002 Cylindrical package, top screw terminals, clamp mount

AAA453-002 01

stud mount package   **B006**

A set of cylindrical stud-mount package outline styles with upper screw connections in standard form

of which each outline style can be described with the same group of data element types.

Properties

AAG001-001 seated height
AAG008-001 terminal width
AAG012-001 terminal thickness
AAG014-001 package diameter
AAG017-001 terminal spacing
AAG092-001 package height zone
AAG093-002 stud thread diameter
AAG094-002 terminal thread diameter
AAG095-001 stud length
AAG096-001 stud thread
AAG097-001 terminal thread
AAG133-001 non-threaded stud length

DAA048-002 Cylindrical package, top screw terminals, stud mount

AAA454-001 01

non-bumped package   **B002**

A set of quad flat-pack non-bumped package outline styles with gull-wing leads in standard form of which each outline style can be described with the same group of data element types.

Properties

AAG001-001 seated height
AAG002-001 stand-off height
AAG003-001 package height
AAG012-001 terminal thickness
AAG013-001 package length
AAG016-001 package width
AAG017-001 terminal spacing
AAG023-001 overall length
AAG024-001 overall width
AAG052-001 terminal seating angle
AAG053-001 terminal row spacing
AAG076-001 terminal width
AAG077-001 terminal length
AAG080-001 terminal row spacing
AAG109-001 quantity of terminal positions
AAG110-001 quantity of terminal positions

DAA049-001 Quad flat pack, gull-wing leads, non-bumped package

AAA455-001 01

cavity up   **B007**

A set of pin-grid-array cavity-up package outline styles with round pins of which each outline style can be described with the same group of data element types.

Properties

AAG001-001 seated height
AAG002-001 stand-off height
AAG003-001 package height
AAG009-001 terminal diameter
AAG013-001 package length
AAG016-001 package width
AAG017-001 terminal spacing

AAG078-001 lid height
AAG081-001 lid length
AAG082-001 lid width
AAG107-001 terminal pattern
AAG109-001 quantity of terminal positions
AAG110-001 quantity of terminal positions
AAG112-001 terminal reference position
AAG113-001 terminal reference position

DAA050-001 Pin-grid array package, cavity up

AAA456-001 01

cavity down   **B008**

A set of pin-grid-array cavity-down package outline
styles with round pins of which each outline style can
be described with the same group of data element
types.

Properties
AAG001-001 seated height
AAG002-001 stand-off height
AAG003-001 package height
AAG009-001 terminal diameter
AAG013-001 package length
AAG016-001 package width
AAG017-001 terminal spacing
AAG078-001 lid height
AAG081-001 lid length
AAG082-001 lid width
AAG107-001 terminal pattern
AAG109-001 quantity of terminal positions
AAG110-001 quantity of terminal positions
AAG112-001 terminal reference position
AAG113-001 terminal reference position

DAA051-001 Pin-grid array package, cavity down

AAA501-001 01

Solid tantalum electrolytics   STAN

A set of fixed electrolytic capacitors in which the
oxide film formed on the surface of foil, wire or
sintered slug of tantalum by anodic oxidation is
employed as the dielectric, and solid electrolyte in
close contact with this dielectric is employed as a
part of the cathode and for which each capacitor is
described by the same set of data element types.

AAA502-001 01

Non-solid tantalum electrolytics   NTAN

A set of fixed electrolytic capacitors in which the
oxide formed on the surface of tantalum by anodic
oxidation is employed as the dielectric and paper or
fibre impregnated with liquid electrolyte and located
in close contact with this dielectric is employed as a
part of cathode and for which each capacitor is
described by the same set of data element types.

AAA503-001 01

Solid aluminium electrolytics   SAL

A set of fixed electrolytic capacitors in which the
oxide film formed on the surface of foil, wire or
sintered slug of aluminium by anodic oxidation is
employed as the dielectric, and solid electrolyte in
close contact with this dielectric is employed as a
part of cathode and for which each capacitor is
described by the same set of data element types.

Properties
AAJ007-001   built-in fuse

AAA504-001 01

Non-solid aluminium electrolytics   NAL

A set of fixed electrolytic capacitors in which the
oxide formed on the surface of aluminium foil by
anodic oxidation is employed as the dielectric and
paper or fibre impregnated with liquid electrolyte and
located in close contact with this dielectric is
employed as a part of the cathode and for which
each capacitor is described by the same set of data
element types.

AAA505-001 01

Fixed mixed-dielectric capacitors   MIX

A set of fixed capacitors in which the dielectric is
formed from layers of two or more different materials
and for which each capacitor is described by the
same set of data element types.

AAA509-001 01

Fixed precision resistors   PREC

A set of fixed resistors having stable characteristics
for which each resistor is described by the same set
of data element types.

AAA510-001 01

Fixed power resistors   PWR

A set of fixed resistors intended for high-power
applications for which each resistor is described by
the same set of data element types.

Properties
AAJ009-001   structure

AAA511-001 01

Fixed low-power resistors   LP

A set of fixed resistors intended for low-power
applications for which each resistor is described by
the same set of data element types.

AAA512-001　01

Fixed chip resistors　　　　　　　　CHIP

A set of fixed resistors intended for surface-mount applications for which each resistor is described by the same set of data element types.

AAA513-001　01

Fixed thermostat resistors　　　　THERM

A set of fixed resistors for use in thermostats for which each resistor is described by the same set of data element types.

Properties
AAJ013-001　tolerance of TC of resistance

AAA514-001　01

Fixed fusing resistors　　　　　　FUS

A set of fixed fusing resistors for which each resistor is described by the same set of data element types.

Properties
AAJ011-001　fusing power

AAA516-002　01

Preset potentiometers　　　　　PRESET

A set of potentiometers which are intended to provide a fixed resistance ratio once the slider position has been set for which each potentiometer is described by the same set of data element types.

NOTE
PRESET POTENTIOMETERS are potentiomers which can be mechanically adjusted with a tool but which are not intended for adjustment during normal operation.

Properties
AAE173-005　total mechanical rotation
AAJ015-001　rotation torque
AAJ017-001　adjustment direction
AAJ018-001　sealing class
AAJ123-001　potentiometer type
AAJ124-001　number of turns

AAA517-001　01

Linear slide potentiometers　　　SLIDE

A set of potentiometers in which adjustment is performed by the linear movement of a slider and for which each potentiometer is described by the same set of data element types.

NOTE
LINEAR SLIDE POTENTIOMETERS are potentiometers which can be mechanically adjusted by moving the adjuster along a linear path.

Properties
AAJ019-001　slide length
AAJ020-001　slide force
AAJ021-001　lever stop force

AAA518-001　01

Circular connectors　　　　　　　CIRC

A set of connectors with circular shell or housing for which each connector is described by the same set of data element types.

AAA519-001　01

Rectangular connectors　　　　　RECT

A set of connectors with contacts in a rectangular or near-rectangular array for which each connector is described by the same set of data element types.

AAA520-001　01

PCB connectors　　　　　　　　　PCB

A set of connectors intended for use with printed-circuit boards for which each connector is described by the same set of data element types.

Properties
AAJ022-001　PCB connector type
AAJ040-001　circuit board thickness

AAA521-001　01

RF connectors　　　　　　　　　RF

A set of connectors intended for use at radio frequencies for which each connector is described by the same set of data element types.

Properties
AAE487-005　frequency band
AAF260-005　characteristic impedance
AAJ041-001　voltage standing wave ratio

AAA522-001　01

Connectors for IC cards　　　　　IC

A set of connectors intended for use with IC cards for which each connector is described by the same set of data element types.

Properties
AAJ040-001　circuit board thickness

AAA523-001　01

Modular connectors　　　　　　　MOD

A set of modular connectors for which each connector is described by the same set of data element types.

AAA524-001 01

Connector contacts   CONTACT

A set of connector contacts of which each contact can be described with the same group of data element types.

NOTE
CONNECTOR CONTACTS are the conducting parts within a connector which mate individually to form the electrical connection.

Properties
AAE350-005 contact finish
AAE353-005 contact sex
AAE358-005 contact current max
AAJ023-001 contact type

AAA525-001 01

Connector accessories   ACCY

A set of accessories for connectors of which each accessory can be described with the same group of data element types.

NOTE
CONNECTOR ACCESSORIES are components which may be used with connectors to facilitate their use in a wide range of applications. Accessories perform no electrical function and include such items as caps, covers, gaskets washers and boots.

Properties
AAF465-001 accessory type

AAA526-001 01

Plugs and jacks   JACK

A set of plug or jack connectors for which each connector is described by the same set of data element types.

AAJ024-001 plug/jack type

Subclasses
AAA536-001 Concentric plugs and jacks
AAA540-001 Pin plugs and jacks
AAA545-001 Plugs and jacks for dc power
AAA549-001 Plug assemblies
AAA550-001 Complex jack boards

AAA527-001 01

Sockets   SOCK

A set of sockets for mounting and connecting to electric/electronic components for which each socket is described by the same set of data element types.

AAJ028-001 socket type

Subclasses
AAA551-001 Sockets for tubes
AAA554-001 Transistor sockets
AAA555-001 Sockets for integrated circuits
AAA556-001 Sockets for PCB
AAA557-001 Power sockets
AAA561-001 Signal sockets
AAA562-001 Sockets for quartz crystals
AAA563-001 Lighting sockets
AAA564-001 Fuse holders and sockets
AAA565-001 Sockets for antenna feeders

AAA528-001 01

Terminals   TERM

A set of terminals for which each terminal is described by the same set of data element types.

AAJ031-001 terminal type

Subclasses
AAA566-001 Small terminals
AAA569-001 Terminal arrays
AAA572-001 Terminal boards
AAA573-001 Terminal rods

AAA536-001 01

Concentric plugs and jacks   CONC

A set of concentric plugs and jacks for which each connector is described by the same set of data element types.

AAJ025-001 concentric plug/jack type

Subclasses
AAA537-001 Concentric plugs
AAA538-001 Concentric jacks
AAA539-001 Concentric multiple jacks

AAA537-001 01

Concentric plugs   PLUG

A set of concentric plugs for which each plug is described by the same set of data element types.

AAA538-001   01

Concentric jacks   JACK

A set of concentric jacks for which each jack is described by the same set of data element types.

Properties
AAJ045-001 direction of insertion

AAA539-001 01

Multiple concentric jacks   MULT

A set of multiple concentric jacks for which each jack is described by the same set of data element types.

Properties
AAJ045-001   direction of insertion

AAA540-001 01

Pin plugs and jacks   PIN

A set of pin plugs and jacks for which each connector is described by the same set of data element types.

AAJ026-001   pin plug/jack type

Subclasses
AAA541-001   Pin plugs
AAA542-001   Pin jacks
AAA543-001   Pin multiple jacks
AAA544-001   Shielded pin jacks

AAA541-001 01

Pin plugs   PLUG

A set of pin plugs for which each plug is described by the same set of data element types.

AAA542-001 01

Pin jacks   JACK

A set of pin jacks for which each jack is described by the same set of data element types.

Properties
AAJ045-001   direction of insertion

AAA543-001 01

Multiple pin jacks   MULT

A set of shielded pin jacks for which each jack is described by the same set of data element types.

Properties
AAJ045-001   direction of insertion

AAA544-001 01

Shielded pin jacks   SHLD

A set of multiple pin jacks for which each jack is described by the same set of data element types.

Properties
AAJ045-001   direction of insertion

AAA545-001 01

Plugs and jacks for dc power   PWR

A set of plugs and jacks for use in dc power applications for which each connector is described by the same set of data element types.

AAJ027-001   dc power plug/jack type

Subclasses
AAA546-001   DC power plugs
AAA547-001   DC power jacks
AAA548-001   Car plugs

AAA546-001 01

DC power plugs   PLUG

A set of plugs for use in dc power applications for which each plug is described by the same set of data element types.

AAA547-001 01

DC power jacks   JACK

A set of jacks for use in dc power applications for which each jack is described by the same set of data element types.

Properties
AAJ045-001   direction of insertion

AAA548-001 01

Car plugs   CAR

A set of plugs for use in dc power applications in automobiles for which each plug is described by the same set of data element types.

AAA549-001 01

Plug assemblies   ASSY

A set of plug assemblies for which each assembly is described by the same set of data element types.

AAA550-001 01

Complex jack boards   CMPLX

A set of complex jack boards for which each jack board is described by the same set of data element types.

AAA551-001 01

Sockets for tubes   **TUBE**

A set of sockets for mounting and connecting to vacuum tubes for which each socket is described by the same set of data element types.

Properties
AAJ029-001   tube socket type

AAA554-001 01

Transistor sockets   **TRA**

A set of sockets for mounting and connecting to transistors for which each socket is described by the same set of data element types.

AAA555-001 01

Sockets for integrated circuits   **IC**

A set of sockets for mounting and connecting to integrated circuits for which each socket is described by the same set of data element types.

Properties
AAJ046-001   package type

AAA556-001 01

Sockets for PCB   **PCB**

A set of sockets for mounting and connecting to PC boards for which each socket is described by the same set of data element types.

AAA557-001   01

Power sockets   **PWR**

A set of connectors for which each connector is described by the same set of data element types.

Properties
AAE512-005   contact voltage (ac)
AAE515-005   contact current (ac)
AAF106-005   contact current (dc)
AAF107-005   contact voltage (dc)
AAJ030-001   power socket type
AAJ047-001   switch type

AAA561-001 01

Signal sockets   **SIG**

A set of sockets for which each socket is described by the same set of data element types.

AAA562-001 01

Sockets for quartz crystals   **XTAL**

A set of sockets for mounting and connecting to quartz crystals for which each socket is described by the same set of data element types.

AAA563-001 01

Lighting sockets   **LIGHT**

A set of sockets intended for use in lighting applications for which each socket is described by the same set of data element types.

AAA564-001 01

Fuse holders and sockets   **FUSE**

A set of sockets or holders for mounting and connecting to fuses for which each socket or holder is described by the same set of data element types.

AAA565-001 01

Sockets for antenna feeders   **ANT**

A set of sockets intended for connection to antenna feeders for which each socket is described by the same set of data element types.

AAA566-001 01

Small terminals   **SM**

A set of small terminals for which each terminal is described by the same set of data element types.

NOTE
SMALL TERMINALS are terminals which typically only have the facility for connecting one, two or three conductors.

Properties
AAJ032-001   small terminal type

AAA569-001 01

Terminal arrays   **ARRY**

A set of terminal arrays for which each array is described by the same set of data element types.

Properties
AAJ033-001   terminal array type

AAA572-001 01

Terminal boards   **BRD**

A set of terminal boards for which each terminal board is described by the same set of data element types.

AAA573-001 01

Terminal rods   **ROD**

A set of terminal rods for which each terminal rod is described by the same set of data element types.

AAA575-001 01

Current-activated fuses   **CUR**

A set of fuses activated by excess current for which each fuse is described by the same set of data element types.

AAA576-001 01

Thermally-activated fuses   **THERM**

A set of thermally-activated fuses for which each fuse is described by the same set of data element types.

Properties
AAJ036-001   active element

AAA578-001 01

Fibre optics   **FIBOPTIC**

A set of fibre optic devices for which each component can be described by the same set of data element types.

AAJ048-001   fibre optic component

Subclasses
AAA579-001   Fibre optic links
AAA580-001   Fibre optic connectors
AAA581-001   Fibre optic switches
AAA582-001   Fibre optic branches
AAA583-001   Fibre optic couplers/splicers
AAA584-001   Fibre optic attenuators
AAA585-001   Fibre optic detectors
AAA586-001   Fibre optic isolators
AAA587-001   Fibre optic networks
AAA588-001   Fibre optic light sources
AAA589-001   Fibre optic modulators
AAA590-001   Fibre optic transmitters and receivers
AAA591-001   Optical waveguiders
AAA592-001   Fibre optic cables
AAA593-001   Fibre optic filters
AAA594-001   Fibre optic lenses

AAA579-001 01

Fibre optic links   **LINK**

A set of fibre optic links for which each component can be described by the same set of data element types.

AAA580-001 01

Fibre optic connectors   **CONN**

A set of fibre optic connectors for which each connector can be described by the same set of data element types.

AAA581-001 01

Fibre optic switches   **SWI**

A set of fibre optic switches for which each switch can be described by the same set of data element types.

AAA582-001 01

Fibre optic branches   **BRA**

A set of fibre optic branches for which each component can be described by the same set of data element types.

AAA583-001 01

Fibre optic couplers/splicers   **COUP**

A set of fibre optic couplers or splicers for which each component can be described by the same set of data element types.

AAA584-001 01

Fibre optic attenuators   **ATT**

A set of fibre optic attenuators for which each component can be described by the same set of data element types.

AAA585-001 01

Fibre optic detectors   **DET**

A set of fibre optic detectors for which each component can be described by the same set of data element types.

AAA586-001 01

Fibre optic isolators   **ISOL**

A set of fibre optic isolators for which each component can be described by the same set of data element types.

AAA587-001 01

Fibre optic networks NETW

A set of fibre optic networks for which each network can be described by the same set of data element types.

AAA588-001 01

Fibre optic light sources SOURC

A set of light sources for use in fibre optic systems for which each light source can be described by the same set of data element types.

AAA589-001 01

Fibre optic modulators MOD

A set of fibre optic modulators for which each component can be described by the same set of data element types.

AAA590-001 01

Fibre optic transmitters/receivers TXRX

A set of fibre optic transmitters and receivers for which each component can be described by the same set of data element types.

AAA591-001 01

Optical waveguiders WG

A set of optical waveguiders for which each component can be described by the same set of data element types.

AAA592-001 01

Fibre optic cables CAB

A set of fibre optic cables for which each cable can be described by the same set of data element types.

AAA593-001 01

Fibre optic filters FIL

A set of fibre optic filters for which each filter can be described by the same set of data element types.

AAA594-001 01

Fibre optic lenses LENS

A set of lenses for use with fibre optic systems for which each lens can be described by the same set of data element types.

AAA595-001 01

Spark gaps SPARK

A set of spark gaps of which each can be described with the same group of data element types.

Properties
AAJ082-001 dc breakdown voltage
AAJ083-001 breakdown voltage tolerance
AAJ084-001 capacitance
AAJ087-001 insulation resistance

AAJ081-001 spark gap type

Subclasses
AAA605-001 Air spark gaps
AAA606-001 Gas-filled spark gaps

AAA596-001 01

Resonators RESON

A set of resonators of which each can be described with the same group of data element types.

Properties
AAJ088-001 resonator type
AAJ089-001 resonant frequency
AAJ090-001 quality factor

AAA597-001 01

Image pickup devices IMAGE

A set of image pickup devices of which each device can be described with the same group of data element types.

Properties
AAJ074-001 image pickup device type

AAA601-001 01

Fixed inductors FIX

A set of variable inductors of which each inductor can be described with the same group of data element types.

AAF390-002 type of inductor

Subclasses
AAA225-001 Deflection units
AAA226-001 Chokes
AAA227-001 Coils
AAA228-001 Linearity control units
AAA603-001 Antenna inductors
AAA604-001 Solenoids

AAA602-001 01

Variable inductors   **VAR**

A set of fixed inductors of which each inductor can be described with the same group of data element types.

Properties
AAJ078-001   variable inductor type
AAJ079-001   minimum inductance
AAJ080-001   maximum inductance

AAA603-001 01

Antenna inductors   **ANT**

A set of inductors for use with antennas of which each inductor can be described with the same group of data element types.

AAA604-001   01

Solenoids   **SOL**

A set of solenoids of which each solenoid can be described with the same group of data element types.

AAA605-001 01

Air spark gaps   **AIR**

A set of air spark gaps of which each spark gap can be described with the same group of data element types.

AAA606-001 01

Gas-filled spark gaps   **GAS**

A set of gas-filled spark gaps of which each spark gap can be described with the same group of data element types.

Properties
AAJ085-001   withstanding voltage
AAJ086-001   surge current

AAA607-001 01

Rotary precision potentiometers   PRECROT

A set of precision potentiometers with continuously-variable rotary adjustment for which each potentiometer is described by the same set of data element types.

NOTE
PRECISION ROTARY POTENTIOMETERS are potentiometers for which the mechanical adjustment is achieved by turning a shaft and whose position can be set with a high degree of precision.

Properties
AAE145-005   spindle material of potentiometer
AAE147-005   spindle length
AAE148-005   spindle diameter
AAE173-005   total mechanical rotation
AAJ014-001   potentiometer size
AAJ015-001   rotation torque
AAJ123-001   potentiometer type
AAJ124-001   number of turns

AAA608-001 01

Power rotary potentiometers   PWRROT

A set of power potentiometers with continuously-variable rotary adjustment for which each potentiometer is described by the same set of data element types.

NOTE
POWER ROTARY POTENTIOMETERS are potentiometers for which the mechanical adjustment is achieved by turning a shaft and which are typically capable of dissipating powers of more than 10 W.

Properties
AAE145-005   spindle material of potentiometer
AAE147-005   spindle length
AAE148-005   spindle diameter
AAE173-005   total mechanical rotation
AAJ014-001   potentiometer size
AAJ015-001   rotation torque
AAJ123-001   potentiometer type
AAJ124-001   number of turns

AAA609-001 01

Low-power rotary potentiometers   LPROT

A set of low-power potentiometers with continuously-variable rotary adjustment for which each potentiometer is described by the same set of data element types.

NOTE
LOW-POWER ROTARY POTENTIOMETERS are potentiometers for which the mechanical adjustment is achieved by turning a shaft and which are typically able to dissipate powers up to 10 W.

Properties
AAE145-005   spindle material of potentiometer
AAE147-005   spindle length
AAE148-005   spindle diameter
AAE173-005   total mechanical rotation
AAJ014-001   potentiometer size
AAJ015-001   rotation torque
AAJ123-001   potentiometer type
AAJ124-001   number of turns

AAA610-001 01

Connector parts   **CONPART**

A set of connector parts of which each part can be described with the same group of data element types.

NOTE
CONNECTOR PARTS are components which may be used to assemble complete connectors, which are used as accessories to a connector or which are needed in the assembly or disassembly of connectors.

AAF464-001   connector part type

Subclasses
AAA524-001   Connector contacts
AAA525-001   Connector accessories
AAA611-001   Connector tools
AAA612-001   Connector shells
AAA613-001   Connector inserts

AAA611-001 01

Connector tools   **TOOL**

A set of connector tools of which each tool can be described with the same group of data element types.

NOTE
CONNECTOR TOOLS are tools which are needed for the assembly, disassembly, installation or repair of connectors. They include such items as spanners, keys, jigs and gauges.

Properties
AAF466-001   tool type

AAA612-001 01

Connector shells   **SHELL**

A set of connector shells of which each shell can be described with the same group of data element types.

NOTE
CONNECTOR SHELLS are the external housing of connectors which normally provide the mechanical mating.

Properties
AAE351-006   housing material
AAF467-001   shell type

AAA613-001 01

Connector inserts   **INSERT**

A set of connector inserts of which each insert can be described with the same group of data element types.

NOTE
CONNECTOR INSERTS are formed from insulating material and provide the mechanical support for the connector contacts within the connector shell.

Properties
AAF468-001   insert type
AAF469-001   insert material

Annex C
(normative)

Data element type definitions

AAD001-001	02	M..17	A52
	simple	string	

die identifier   **die ID**

A code based on the IEC 60191 code to identify the die

NOTE
The code has the form   A-XBCC-Dnn/mmm, where
A   is a shape class code
X   is a code for the encapsulation material
B   is a terminal position code
CC   is the body style code
D   is the terminal shape code
nn   is the number of terminals
mmm   is a sequence number to distiguish
        uniquely dies whose codes would otherwise
        be identical.

IEC 60191-4 (1999)

AAD002-001	01	M..17	A52
	simple	string	

die name   **die name**

The name or identifier given to the die by the manufacturer.

IEC 62258

AAD003-001	01	M..17	A52
	simple	string	

die version   **die version**

The code given by the manufacturer to identify the version of the die.

IEC 62258

AAD004-001	01	M..4	A52
	simple	non-quantitative code	

die type code   **die code**

The mnemonic code for the physical form in which the die or wafer is supplied

BARE = bare die with pads on one side and
            without connection structure
BUMP = bare die with bumped pads
DUAL = bare die with pads on both surfaces
LEAD = bare die with attached lead frame
MPD   = minimally packaged die device

IEC 62258

REMARKS:
If the die or wafer is in its original form, then the code is BARE or DUAL. Die with codes BUMP or LEAD have been post-processed to add the solder bumps or metal lead frame respectively.

AAD005-001	01	M..17	A57
	simple	string	

substrate material   **substrate**

The constitution of the bulk material which forms the base of the die process technology

IEC 62258

REMARKS:
In most cases the substrate is composed of a single material such as silicon

| AAD006-001 | 02 | M..4 | A56 |
| | simple | non-quantitative code | |

connection requirement code conn req code

The mnemonic code used to identify the requirement for electrical connection to the die substrate.

CONN= must be connected
ISOL = must be isolated
N/A = not applicable
N/K = requirement not known
OPT = connection optional

IEC 62258

REMARKS:
Where the value of the code is ISOL, no connection may be made to the substrate.
Where the value of the code is OPT, connection to the substrate is optional but any connection made must be to the supply as defined by substrate connection.
Where the value of the code is CONN, a connection from the substrate to a terminal on the die or to a supply terminal is mandatory.
Where the value of the code is N/A connection to the substrate is not appropriate or not possible.
Where the value of the code is N/K no information on the connection requirement is available.

| AAD007-001 | 01 | M..17 | A56 |
| | simple | string | |

substrate connection   substr conn

The name of the supply connection to which a substrate connection, if required, must be made.

NOTE
A value is not required when the substrate must be isolated.

IEC 62258

REMARKS:
The value to be assigned is the name of a supply connection which is defined elsewhere within a database.

| AAD008-001 | 01 | M..17 | A59 |
| | simple | string | |

die test level code   test level

The code or designation given by a manufacturer to the schedule of tests applied to assess the performance characteristics and to conduct burn-in for a die.

IEC 62258

| AAD009-001 | 01 | NR2..2.2 | Q59 |
| | level minTyp | real measure % | |

| die yield | | yield | |
| | | yield | |

The fraction of die (in %) as specified by level (minTyp) which function according to specification on delivery to a customer.

NOTE
For low defect rates, yield and DPM (in 10^{-6}) are related by the formula   yield = 100 – DPM/1.0E4

IEC 62258

REMARKS:
Where a minimum figure is quoted, this will normally be a guarantee of delivered quality. Where a typical figure is given, this is to be interpreted as an average for the processes employed.

| AAD010-001 | 01 | M..70 | A58 |
| | simple | string | |

die description   die desc

A description of the physical form of the die including information on solder bumps and lead frame where applicable.

IEC 62258

| AAD011-001 | 01 | NR2 S..3.3 | T03 |
| | level nom | real measure m | |

| wafer size | | W_size | |
| | | W_{size} | |

The diameter of the wafer on which the die is fabricated

NOTE
Since this is only a nominal value for information purposes, inch dimensions should be converted at the rate of 25 mm to one inch.

IEC 62258

AAD012-001 02	NR1..4	Q56
level nom	integer measure 1	

termination number   **n_term**
termination identifier n_{term}

A numeric value which identifies the termination uniquely for each device.

IEC 62258

REMARKS:
Where the manufacturer has allocated a unique number to each terminal, that numbering identification should be used.
When that is not the case, for devices with terminals around the periphery, numbers should be allocated in an anticlockwise direction starting with the terminal nearest to the top left-hand corner of the die as viewed from the side containing the terminals.

AAD013-001 01	M..17	A91
simple	string	

manufacturer pad identifier   **manuf pad ID**

The identification allocated to a pad by the manufacturer in his data sheet.

IEC 62258

AAD014-001 01	M..17	A91
simple	string	

pad geometry name   **pad geom name**

The name given to identify a particular pad geometry.

IEC 62258

REMARKS:
The name used is arbitrary and is only used as a link between a pad geometry definition and a pad instance. The name must be unique within the list of names for any particular die.

AAD015-001 01	NR3 S..3.3ES2	T03
level nom	real measure m	

pad x position   **pad x**
    pad_x

The value (in m) of the x-coordinate of the geometric centre of a pad referred to the geometric origin of the die as origin.

NOTE
For polygonal pads, the geometric centre of the pad is taken as mid-way between the extremes of the x and y dimensions

IEC 62258

DAE002-001 Die dimensions

AAD016-001 01	NR3 S..3.3ES2	T03
level nom	real measure m	

pad y position   **pad y**
    pad_y

The value (in m) of the y-coordinate of the geometric centre of a pad referred to the geometric origin of the die as origin

NOTE
For polygonal pads, the geometric centre of the pad is taken as mid-way between the extremes of the x and y dimensions

IEC 62258

DAE002-001 Die dimensions

AAD017-001 02	M..7	A58
simple	string	

pad orientation   **pad orientation**

The orientation code for a pad related to reference axes

NOTE
The pad orientation is given by the angle of clockwise orientation, in degrees, followed optionally by letter codes to indicate mirroring. If the letters MX are included the orientation of the pad is mirrored in the X-axis, whilst if the letters MY are included the orientation of the pad is mirrored in the Y-axis. Both MX and MY may be present simultaneously and all mirroring shall be done about the geometric reference centre of the terminal shape. The mirroring operation (if any) shall be carried out first, then the terminal shall be rotated by the orientation angle.

IEC 62258

AAD018-001   01   NR1..2   Q56
        level nom integer measure
        1

number of bond sites   **bond sites**
                        n_{bond}

The number of separate sites on a pad to which bonds can and should be made.

IEC 62258

AAD019-001 01   M..35   A91
        simple string

signal name   **signal name**

The name given to the signal appearing at the terminal of a device.

IEC 62258

AAD020-001 01   M..8   A91
        simple non-quantitative code

signal type   **signal type**
I/O type

The code of the type of signal associated with a terminal.

NOTE
The value shows whether the signal is analogue or digital, or whether connection to the terminal provides a supply or non-logic function, etc.

A   = analogue signal
B   = digital bidirectional
G   = ground
I   = digital input
N   = not connected
O   = digital output
T   = test point
U   = unknown connection
V   = supply voltage
X   = internally connected

IEC 62258

AAD021-001 01   M..17   A91
        simple string

electrical reference   **elect ref**

A reference to a definition of a power supply or logic signal connection

NOTE
The value to be assigned must be a name which has been given to a signal definition in a power, digital or analogue connection table.

IEC 62258

AAD022-001   01   A2   A56
        simple non-quantitative code

signal direction   **I/O direction**
input/output direction

The code of the direction of signal flow at a terminal

BI   = bidirectional
IP   = input only
OP   = output only

IEC 62258

AAD023-001 01   M..17   A56
        simple string

swap codes   **swap codes**

The codes which indicate connection interchangeability of a terminal with other terminals.

IEC 62258

AAD024-001 02   A..4   A58
        simple non-quantitative code

pad shape   **pad shape**

The code of the shape of a bonding pad on a die.

CIRC = circular
ELL   = elliptical
POLY = polygonal
RECT = rectangular

IEC 62258

AAD025-001 01   NR3..3.3ES2   T03
        level nom real measure
        m

pad length   **b**
                b

The length (in m) of a rectangular or elliptical pad measured in a direction parallel to the x-axis.

IEC 62258

DAE002-001 Die dimensions

AAD026-001	01	NR3..3.3ES2	T03
	level nom	real measure	
		m	

pad width   **c**
c

The width (in m) of a rectangular or elliptical pad measured in a direction parallel to the y-axis.

IEC 62258

DAE002-001 Die dimensions

AAD027-001	01	NR1..2	Q56
	level nom	integer measure	
		1	

number of polygon vertices   **n_v**
n_v

The number of vertices of a polygonal pad.

IEC 62258

REMARKS:
A polygonal pad must have at least three vertices.

AAD028-001	01	NR1..2	Q56
	level nom	integer measure	
		1	

vertex number   **v_p**
v_p

The vertex number of a polygonal pad.

IEC 62258

AAD029-001	01	NR3 S..3.3ES2	T03
	level nom	real measure	
		m	

vertex x-coordinate   **x_v**
x_v

The value (in m) of the x-coordinate of a vertex of a polygonal pad relative to the centre of the pad.

IEC 62258

AAD030-001	01	NR3 S..3.3ES2	T03
	level nom	real measure	
		m	

vertex y-coordinate   **y_v**
y_v

The value (in m) of the y-coordinate of a vertex of a polygonal pad relative to the centre of the pad.

IEC 62258

AAD031-001	01	A3	A56
	simple	non-quantitative code	

supply variability   **variability**

The code indicating whether a power supply is fixed or variable.

FIX   = fixed supply
VAR   = variable supply

IEC 62258

AAD032-001	02	NR2 S..3.3	E06
	level miNoMax	real measure	
		V	

supply voltage   **V_sup**
V_{sup}

The value as specified by level (miNoMax) of a dc voltage (in V) connected to the supply terminal of an integrated circuit.

NOTE
For a fixed supply, the nominal value is given with the minimum and maximum giving the maximum permissible excursions from that value.
For a variable supply voltage, the minimum and maximum values are the permissible extremes of the range of supply voltages.

IEC 62258

AAD033-001	01	NR3..3.3ES2	E01
	level max	real measure	
		A	

pad supply current   **I_pad**
pad current I_{pad}

The absolute maximum value of the current (in A) that should flow through a single bond site on a supply pad.

IEC 62258

AAD049-001	01	M..17	A91
	simple	string	

supply name   **supply name**

The name given to a terminal for the supply of power to a device.

IEC 62258

REMARKS:
Names commonly used include Vcc, Vss, Vdd, GND, V+ and V-.

AAD054-001	01	NR3 S..3.3ES2	E01
	level typMax	real measure	
	A		

supply current   **I_sup**
                                       I_{sup}

The total value as specified by level (typMax) of the dc current (in A) passing through all terminals of an integrated circuit connected to the same supply voltage.

NOTE
The values are given for the maximum value of the corresponding supply voltage.

IEC 62258

AAD055-001	01	M..8	A53
	simple	set of non-quantitative codes	

supply packing code   **packing code**

The mnemonic code for the form of packing used for the supply of a die or wafer.

BOX   = supplied unsawn in wafer boxes
FILM   = supplied sawn on plastic film
GELFRAME   = supplied in GEL-PAK™ for sawn wafers
GELPAK   = supplied in GEL-PAK™
SURFTAPE   = supplied on SurfTape™
TAPE   = supplied on embossed tape
WAFFLE   = supplied in waffle pack or tray

IEC 62258

AAD056-001	01	M..8	A55
	simple	non-quantitative code	

supply form code   **supply code**

The mnemonic code for the form in which the die is supplied either in wafer form or as an individual dice

BARE   = individual die without connection structures
BUMP   = individual bumped die
MPD   = individual die in minimally packaged form
SAWN   = sawn wafer
WAFER = unsawn wafer

IEC 62258

AAD060-001	01	M..2000	A11
	simple	string	

test procedure description   **test procedure**

A description of the procedures used in the test and evaluation of a die.

IEC 62258

AAD070-001	01	NR3..3.3ES2	T03
	level nom	real measure	
		m	

die step dimension x   **D**
die length   D

The nominal value (in m) of the step interval of die patterns on a wafer measured in the direction of the x axis of the coordinate system established for the wafer.

IEC 62258

REMARKS:
The length of the die will normally be closely related to the step interval but the precise value depends on width of saw cuts, tolerances, etc.

DAE002-001 Die dimensions

AAD071-001	01	NR3..3ES2	T03
	level nom	real measure	
		m	

die step dimension y **E**
die width E

The nominal value (in m) of the step interval of die patterns on a wafer measured in the direction of the y-axis of the coordinate system established for the wafer.

IEC 62258

REMARKS:
The width of the die will normally be closely related to the step interval but the precise value depends on width of saw cuts, tolerances, etc.

DAE002-001 Die dimensions

AAD072-001	01	NR3..3ES2	T03
	level nom	real measure	
		m	

die thickness **A**
wafer thickness A
thickness

The perpendicular distance (in m) between the two plane faces of a die or wafer.

IEC 62258

DAE002-001 Die dimensions

| AAD078-001 | 01 | M..35 | A57 |
| | simple | string | |

passivation material **passivation**

The material used to cover the surface of the die for passivation.

IEC 62258

| AAD081-001 | 01 | A1 | A58 |
| | simple | non-quantitative code | |

die surface **die surface**

The code identifying the surface of a die on which a pad is situated when pads exist on both surfaces.

NOTE
The value may be blank when pads exist on only one surface of the die.

B = bottom surface
U = upper surface

IEC 62258

| AAD082-001 | 01 | M..35 | A59 |
| | simple | string | |

test name **test name**

A short title for the procedures used in the test and evaluation of a die.

NOTE
This is a short name for a procedure described more fully in AAD060-001.

IEC 62258

| AAD085-001 | 01 | M..35 | A52 |
| | simple | string | |

die type **die type**

A short title for the physical form of a die or wafer.

NOTE
This is a short title for the form described more fully in AAD084-001. The value list consists of the value meanings from AAD004-001.

IEC 62258

| AAD086-001 | 01 | M..175 | A52 |
| | simple | string | |

die type description **die desc**

The description of the physical form of a die or wafer.

IEC 62258

| AAD087-001 | 01 | M..35 | A55 |
| | simple | string | |

supply form **supply form**

A short title for the form in which a die or wafer is supplied.

NOTE
This is a short title for the form described more fully in AAD086-001.

IEC 62258

| AAD088-001 | 01 | M..175 | A55 |
| | simple | string | |

supply form description supply form des

The description of the form in which a die or wafer is supplied.

IEC 62258

AAD089-001   01   M..35   A53
simple   string

supply packing   packing

A short title for the form of packing used for supply of a die or wafer.

NOTE
This is a short title for the form described more fully in AAD088-001.

IEC 62258

AAD090-001 01   M..175   A53
simple   string

supply packing description   packing desc

The description of the form of packing used for the supply of a die or wafer.

IEC 62258

AAD091-001 01   M..35   A56
simple   string

connection requirement conn req

The requirement for electrical connection to the die substrate.

IEC 62258

AAD093-001 01   M..175   A56
simple   string

substrate connection   subst conn desc

Description of the requirement, if any, of a connection to the substrate of a die.

IEC 62258

AAD095-001 02   X1   A59
simple   string

die yield code   yield code

The single-character code giving the range of actual yield figures for a die.

NOTE
The code is a single hexadecimal digit in the range 0 to F.

IEC 62258

AAD115-001 01   M..17   A58
simple   non-quantitative code

geometric units   geometric units

The code identifying the units in which die dimensions are given.

NOTE
To comply with IEC 61360, the units should be given in metres (m) and these will be the default units.

μm   = micrometre (micron)
m   = metre
mil   = mil (1.0E-3 inch)
mm   = millimetre

IEC 62258

AAD116-001 01   NR1..4   Q56
level nom integer measure
1

pad geometry count   n_g
n_g

The number of different pad shapes on a die to which different pad geometry names have been allocated.

IEC 62258

AAD117-001 01   NR3..3.3ES2   T03
level nom real measure
m

size tolerance   S_tol
S_{tol}

The tolerance (in m) on the length and width dimensions of a die.

IEC 62258

AAD118-001 01   NR3..3.3ES2   T03
level nom real measure
m

thickness tolerance   T_tol
T_{tol}

The tolerance (in m) on the thickness of a die or wafer.

IEC 62258

AAD119-001	01	M..35	A55
	simple	string	

backside finish   **backside finish**

The finish applied to the surface of the substrate of a die opposite to that to which the connections are made.

IEC 62258

AAD120-001	01	M..70	A57
	simple	string	

pad metallisation   **metallisation**

The material used to form the pads on a die to which connection is made.

NOTE
The information given should include the materials used and the thickness of all layers.

IEC 62258

AAD121-001	01	NR3..3.3ES2	T03
	level nom	real measure m	

pad diameter   **$fb**
                         Øb

The nominal diameter (in m) of a circular pad.

IEC 62258

AAD122-001	01	M..70	A58
	simple	string	

bump size   **bump size**

Description of the size, shape and height of the bumps on a bumped die.

IEC 62258

AAD123-001	01	NR3..3.3ES2	T03
	level miNoMax	real measure m	

bumped height   **A_1**
                          A_1

The perpendicular distance (in m) as specified by level (miNoMax) between a plane on which the bumps rest and the top surface of a bumped die.

IEC 62258

REMARKS:
The mounted height of a bumped die will normally be less than A_1.

DAE003-001 Bumped die dimensions

AAD124-001	01	M..35	A57
	simple	string	

bump material   **bump material**

The material used to form the bumps on a bumped die.

IEC 62258

AAD125-001	01	M..35	A57
	simple	string	

lead-frame material   **lead material**

The material used to form the leads on a die with attached lead frame.

IEC 62258

AAD126-001	01	M..70	A55
	simple	string	

underfill   **underfill**

Details of any requirements or recommendations for underfill between a bumped die or a minimally-packaged device and its mounting surface.

IEC 62258

AAD127-001 01   M..35   A58
                simple   string

die picture   die picture

Reference to a file or document containing a picture
of the die which shows the positions of all pads.

IEC 62258

AAD129-001 01   NR3 S..3.3ES2   T03
                level nom   real measure
                               m

die centre x-position   X_0
                            X_0

The nominal distance (in m) measured in the x-
direction of the geometric centre on the surface of a
die from the geometric origin.

IEC 62258

DAE002-001 Die dimensions

AAD130-001 01   NR3 S..3.3ES2   T03
                level nom   real measure
                               m

die centre y-position   Y_0
                            Y_0

The nominal distance (in m) measured in the y-
direction of the geometric centre on the surface of a
die from the geometric origin.

IEC 62258

DAE002-001 Die dimensions

AAD131-001 01   NR2..2.2   Q59
                level typMax   real measure
                                  ppm

defect rate   DPM
                          DPM

The average fraction of die (in parts per million)
which which may be expected to be defective on
delivery to a customer.

NOTE
For low defect rates, DPM and yield (in %) are
related by the formula $DPM = 1.0E4*(100 – yield)$

IEC 62258

REMARKS:
Where a maximum figure is quoted, this will normally
be a guarantee of delivered quality. Where a typical
figure is given this is to be interpreted as an average
for the processes employed.

AAD132-001 01   X1   A59
                simple   non-quantitative code

test flow   test flow

The code for the basic test procedures applied to a
die or wafer.

A   = ac and dc tests
D   = dc tests only
K   = ac and dc tests with full function
N   = not tested
S   = ac and dc tests at full speed
X   = no data available

IEC 62258

AAD133-001 01   X1   A59
                simple   non-quantitative code

temperature specification   test temp
test temperatures

The code for the basic temperature specification for
tests applied to a die or wafer.

A   = ambient only
C   = cold, hot and ambient (three tests)
H   = hot and ambient (two tests)
K   = full range to specification
S   = coverage to special requirements
X   = no data available

IEC 62258

AAD134-001 01   X1   A59
                simple   non-quantitative code

process options   options
test options

The code for the basic options of test, inspection and
burn-in applied to a die or wafer.

B   = burn-in (100%)
K   = special KGD test, wafer level
L   = lot-acceptance testing
M   = scanning electron microscope
R   = radiation
S   = special stress tests at wafer probe
V   = visual inspection
X   = no data available

IEC 62258

AAD137-001	01	X1	A52
	simple	non-quantitative code	

conformity level   **conformity**

The code to indicate the level of conformity with a relevant part of ES 59008 as defined in ES 59008-1

1   = conformity level 1
2   = conformity level 2
3   = conformity level 3

IEC 62258

AAD140-001	01	M..35	A21
	simple	string	

die manufacturer   **manufacturer**

The original manufacturer of the die device

IEC 62258

AAD141-001	01	M..35	A21
	simple	string	

die supplier   **supplier**

The organisation that supplied the die device, where different from the original manufacturer

IEC 62258

AAD142-001	01	M..35	A21
	simple	string	

die data source   **data source**

The organisation that supplied the data on the die device, where different from the original manufacturer

IEC 62258

AAD143-001	01	M..35	A51
	simple	string	

packaged part name   **packaged part**

The manufacturer's type number or part name for an packaged part equivalent to the die device

IEC 62258

AAD144-001	01	M..8	A58
	simple	non-quantitative code	

geometric view   **geometric view**

The code that specifies the geometric view that shall apply to all geometric shapes used in drawings of a die device

BOTTOM   = viewed from the bottom (non-active side)
TOP   = viewed from the top (active side)

IEC 62258

AAD145-001	01	NR1..4	Q56
	simple	integer measure	
		1	

terminal count n_2
n_2

The total number of terminals on a die device

IEC 62258

AAD146-001	01	NR3..3.3ES2	T03
	level nom	real measure	
		m	

bump height h_b
h_b

The nominal height (in m) of the bumps on a bumped die measured as the perpendicular distance between the die surface and the plane surface on which the die is mounted

IEC 62258

DAE003-001 Bumped die dimensions

AAD147-001	01	NR3 S..3.3ES2	T03
	level minMax	real measure	
		m	

bump height tolerance h_b_tol
h_{btol}

The tolerance (in m) on the height of the bumps over the surface of a bumped die

IEC 62258

AAD148-001 01 **M..17** **A57**
simple string

bulk material **bulk material**

The constitution of the bulk material which forms the base of the die process technology where this is different from the substrate material on which the active die is formed

IEC 62258

AAD149-001 01 **NR2 S..3.3** **H02**
level max real measure
Cel

maximum assembly temperature **T_assy**
T_{assy}

The maximum temperature (in Cel) to which the backside surface of a die device may be raised during assembly

IEC 62258

AAD150-001 01 **M..70** **A57**
simple string

encapsulation material **encapsulation**

The material used to form an external case or coating on an electric component to protect it from the environment

IEC 62258

AAD151-001 01 **NR3..3.3ES2** **E35**
level max real measure
W

power limit **P_lim**
P_{lim}

The maximum power (in W) dissipated by a semiconductor device under typical worst-case conditions

IEC 62258

AAD153-001 01 **X1** **A59**
simple non-quantitative code

test reliability code **reliability**

The code to indicate the availability of reliability information for a die device

K = data based on semiconductor die
P = data based on packaged counterparts
X = no data available
Y = data available on receipt of NDA

IEC 62258

AAD154-001 01 **X1** **A59**
simple non-quantitative code

test maturity code **maturity**

The code to indicate the maturity of the production process for a die device

D = semiconductor die under development
N = not recommended for new designs
O = die will soon be made obsolete
P = pilot production started
S = die available in sample quantities
U = die is no longer available
V = volume manufacture : parameters, yields are stable
X = no data available
Y = data available on receipt of NDA

IEC 62258

AAD155-001 01 **M..35** **A55**
simple string

MPD delivery form **MPD delivery**

The form in which a minimally-packaged device is delivered to the user

IEC 62258

AAD156-001 01 **M..17** **A91**
simple string

fiducial name **fiducial name**

The name given to identify a particular fiducial

IEC 62258

REMARKS:
The name used is arbitrary and is only used as a link between a fiducial geometry definition and a fiducial instance. The name must be unique within the list of names for any particular die device.

AAD157-001	01	M..35	A62
	simple	string	

fiducial file name   **fiducial file**

The name of a file containing an image of the fiducial on the die device.

IEC 62258

AAD158-001	01	NR3..3.3ES2	T03
	level nom	real measure	
		m	

fiducial width   **x_f**
x_f

The nominal length (in m) of a fiducial measured in a direction parallel to the x-axis.

IEC 62258

AAD159-001	01	NR3..3.3ES2	T03
	level nom	real measure	
		m	

fiducial height   **y_f**
y_f

The nominal width (in m) of a fiducial measured in a direction parallel to the y-axis.

IEC 62258

AAD160-001	01	NR3 S..3.3ES2	T03
	level nom	real measure	
		m	

fiducial x position   **fid_x**
fid_x

The nominal value (in m) of the x-coordinate of the geometric centre of a fiducial referred to the geometric origin of the die as origin.

IEC 62258

AAD161-001	01	NR3 S..3.3ES2	T03
	level nom	real measure	
		m	

fiducial y position   **fid_y**
fid_y

The nominal value (in m) of the y-coordinate of the geometric centre of a fiducial referred to the geometric origin of the die as origin.

IEC 62258

AAD162-001	02	M..7	A58
	simple	string	

fiducial orientation   **fid orient**

The orientation code for a pad related to reference axes.

NOTE
The fiducial orientation is given by the angle of clockwise orientation, in degrees, followed optionally by letter codes to indicate mirroring. If the letters MX are included, the orientation of the fiducial is mirrored in the X-axis, whilst if the letters MY are included the orientation of the fiducial is mirrored in the Y-axis. Both MX and MY may be present simultaneously and all mirroring shall be done about the geometric reference centre of the fiducial shape. The mirroring operation (if any) shall be carried out first, then the fiducial shall be rotated by the orientation angle.

IEC 62258

AAE000-001	01	X..8	A52
	simple	non-quantitative code	

IEC reference class   **IEC class**

Code of the main class in the IEC reference collection to which an item belongs.

CO   = component
FEA   = features
GEO   = geometry
MA   = material

AAE001-005	01	X..3	A52
	simple	non-quantitative code	

main class of component   **main class**

Code of the main functional class to which a component belongs.

EE   = electric/electronic component
EM   = electromechanical component
ME   = mechanical component
MP   = magnetic part

AAE002-006 01   X..8   A52
            simple   non-quantitative code

category EE component category EE

Code of the category to which an electric-electronic component belongs.

AMP   = amplifier
ANT   = antenna
BAT   = battery
CAP   = capacitor
CND   = conductor
DEL   = delay line
DID   = diode device
FIBOPTIC = fibre optics
FIL   = filter
IC   = integrated circuit
IND   = inductor
LAM   = lamp
LCD   = liquid crystal display
MIC   = microwave components
OPT   = optoelectronic device
OSC   = oscillator
PE   = piezoelectric device
PWC   = printed wiring components
RES   = resistor
RESON   = resonators
SEN   = sensor
SPARK   = spark gaps
TFM   = transformer
TRA   = transistor
TRG   = trigger device
TUB   = tube
TUN   = tuner

AAE003-006 01   X..3   A56
            simple   non-quantitative code

adjustability type   adjustability

Code of the type of mechanical adjustability of a capacitor, resistor, inductor or transformer.

FIX   = fixed
VAR   = variable

AAE004-007 01   X..8   A57
            simple   non-quantitative code

dielectric material type dielectric type
(capacitor) dielectric

Code of the type of dielectric material of a fixed capacitor.

AIR   = fixed air capacitor
CER   = fixed ceramic capacitor
ELC   = fixed electrolytic capacitor
FLM   = fixed film capacitor
GLS   = fixed glass capacitor
MICA   = fixed mica capacitor
MIX   = fixed mixed-dielectric capacitor
PAP   = fixed paper capacitor

AAE005-006 01   X..3   A51
            simple   non-quantitative code

transducer principle   trans principle
drive unit type

Code of the transducer principle of a loudspeaker.

ELM   = electromagnetic loudspeaker
ELS   = electrostatic loudspeaker
ION   = ionic loudspeaker
MGD   = magnetodynamic loudspeaker
MGS   = magnetostriction loudspeaker
MVC   = moving conductor loudspeaker
PNM   = pneumatic loudspeaker
PXE   = piezoelectric loudspeaker

AAE006-006 01   M..8   A55
            simple   non-quantitative code

mounting features   mtg feature

Code of the mounting features which are designed to fasten a component to its counterpart.

35x15   = width is 35 mm, height is 15mm
35x7.5   = width is 35 mm, height is 7.5 mm
75x25   = width is 75 mm, height is 25 mm
BRC   = with bracket
C20   = width 20 mm
C30   = width is 30 mm
C40   = width is 40 mm
C50   = width is 50 mm
HOL   = through hole
INS   = inserted
SMD   = surface mounted
STD   = stud
TAP   = tapped hole

AAE007-005 01   M..3   A58
            simple   non-quantitative code

terminal shape   terminal shape

Code of the shape of the terminals of an electric, electronic or electromechanical component.

BUS   = bus
CAP   = end cap
FLT   = flat
PIN   = printed wiring pin
SCR   = screw
SOL   = solid-lead
STD   = stud
STL   = stranded-lead
TAG   = solder tag

AAE008-005   01   M..8   A58
      simple   non-quantitative code

terminal placement   terminal place

Code indicating the placement of the terminals of an electric-electronic or electromechanical component.

AXIAL = axial
CIRC = on circle
DIL   = dual in line
GA   = grid array
QIL   = quadruple in line
RAD   = radial
SEND = single ended
SIL   = single in line

AAE009-005 01   M..3   A59
      simple   non-quantitative code

performance grade   performance grd

IEC standard code identifying the performance grade of a fixed capacitor.

1   = long-life
2   = general purpose

IEC 60384-2 (1982)

REMARKS:
See IEC 60384-2 (1982) and IEC 60384-4 (1998) for requirements per test.

AAE010-005   02   M..17   A59
            simple   string

climatic category   climatic cat

IEC standard code indicating the climatic category to which a resistor or capacitor belongs.

IEC 60068-1 (8) (1988)

REMARKS:
The category is indicated by a series of three sets of digits separated by oblique strokes corresponding respectively to the temperatures, both cold and hot, and to the number of days of exposure to damp heat (steady state) they will withstand.
(In the first set the digits denote the temperature below zero in Cel, unless otherwise indicated.)

-First set: Two digits denoting the minimum ambient temperature of operation (cold test).

-Second set: Three digits denoting the maximum temperature of operation (dry heat test). Where the temperature requires the use of only two digits, they shall be prefixed by the figure '0' to make up the three digit group.

-Third set: Two digits denoting number of days of the damp heat steady state) test (Ca). Where the duration requires the use of only one digit, it shall be prefixed by the figure '0' to make up the two digit group.

AAE012-005 02   M..35   A61
      simple   string

international standard   internat std

Reference to an international standard describing a component.

REMARKS:
Examples of formats for reference to IEC publications:
- IEC 60147-1D (VI.1.5.1) (1978)
                = IEC publication
- IEC/TC47(CO)797(5.1) (1981)
                = Publ. of Central office
- IEC/TC47(Sec)797(5.1) (1981)
                = Publ of Secretariat

Examples of formats for reference to ISO publications:
- ISO9999 (1985)   = ISO publication
- ISO/DP999 (1985)   = Draft proposal
- ISO/DIS9999 (1985) = Draft Intern. standard

AAE013-005   01   NR3 S..3.3ES2   E06
            simple   real measure
                        V

voltage (dc)   @U_dc
                            @U_{dc}

The direct voltage (in V) applied to an electric,
electronic or electromechanical component, as a
variable.

AAE014-005 02   NR1 S..4   H02
            simple   integer measure
                        Cel

ambient temperature   @T_amb
ambient free air temperature   @T_{amb}
                            @T_a

The ambient free air temperature (in Cel) of a
component, as a variable.

IEC 60068-1 (1988)

REMARKS:
IEC 60068-1 (1988)
For a heat-dissipating specimen in free air
conditions, the ambient temperature is the
temperature of the air at such distance from the
specimen that the effect of the dissipation is
negligible.

AAE017-005   01   NR1 S..4   H02
            level nom   integer measure
                        Cel

reference temperature   T_ref
                        T_{ref}

The reference ambient temperature (in Cel) applied
to a component.

NOTE
T_{ref} may be used when a number of characteristics
are specified at a common ambient temperature.

AAE018-001 02   NR2 S..3.3   E09
            level nom   real measure
                        %

capacitance lower tolerance (%)   C_lt(%)
                                    $C_{lt(\%)}$

The lower tolerance percentage (in %) of the rated
capacitance of a fixed capacitor.

AAE019-005   01   NR3..3.3ES2   T03
            level miNoMax   real measure
                        m

body length   l_body
                            l_{body}

The value as specified by level (miNoMax) of the
length (in m) of the body of a component in the x-
direction.

AAE020-005 01   NR3..3.3ES2   T03
            level miNoMax   real measure
                        m

body height   h_body
                        h_{body}

The value as specified by level (miNoMax) of the
height (in m) of the body of a component in the z-
direction.

AAE021-005 01   NR3..3.3ES2   T03
            level miNoMax   real measure
                        m

body breadth   b_body
                        b_{body}

The value as specified by level (miNoMax) of the
breadth (in m) of the body of a component in the y-
direction.

AAE022-005 01   NR3..3.3ES2   T03
            level miNoMax   real measure
                        m

outside diameter   d_out
                        d_{out}

The value as specified by level (miNoMax) of the
outside diameter (in m) of a component with a body
of circular cross-section.

AAE023-005 01   NR3..3.3ES2   T03
            level miNoMax   real measure
                        m

terminal diameter   d_term
                        d_{term}

The value as specified by level (miNoMax) of the
diameter (in m) of the terminals of an electric-
electronic or electromechanical component.

AAE024-005 01 NR3..3.3ES2 T03
level nom real measure
m

terminal pitch p_term
p_{term}

The nominal pitch (in m) of the terminals of an electric, electronic or electromechanical component.

IEC 60050 (411) (1973)

AAE027-005 01 NR3..3.3ES2 T03
level miNoMax real measure
m

mounted height h_mnt
mounting height h_{mnt}
seated height

The value as specified by level (miNoMax) of the mounted height of a component (in m), referred to as the seating plane.

REMARKS:
BSI: mounted height (seated height):
The distance of the furthest part of the component above the reference plane measured in a direction perpendicular to that plane.
BSI: seating plane (reference plane):
The surface plane of the circuit on which the component is mounted.

AAE028-005 02 NR3..3.3ES2 T07
simple real measure
s

duration @dt
time interval @dt

The time (in s) during which an input quantity (current, voltage, etc.) is applied to a component, as a variable.

AAE029-005 01 NR3..3.3ES2 F03
simple real measure
Hz

frequency @f
@f

The frequency (in Hz) of a sinusoidal input quantity (current, power, voltage, etc.) applied to an electric, electronic or electromechanical component, as a variable.

AAE030-005 02 M..8 A52
simple non-quantitative code

E series E series

IEC code which identifies the preferred value series to which the resistance of a resistor or the capacitance of a capacitor belongs.

E12   = E12
E192 = E192
E24   = E24
E3   = E3
E48   = E48
E6   = E6
E96   = E96

IEC 60063 (Amd2) (1963)

REMARKS:
The E192 series is composed of rounded values of the theoretical numbers $10^n/192$ in which the exponent n is a whole positive or negative number.
The E96 series is derived from the E192 series by omitting alternate terms.
The E48 series is derived from the E96 series by omitting alternate terms.
The E24 series is composed of rounded values of the theoretical numbers $10^n/24$ in which the exponent n is a whole positive or negative number.

AAE031-005 02 M..3 A55
simple non-quantitative code

electrode technology electrode techn

Code identifying the technology by which the electrodes of a fixed film capacitor are made.

MFL = metal foil
MLZ = metallized

AAE033-005 02 M..3 A56
simple non-quantitative code

voltage application voltage appl

Code of the voltage application(s) for which a fixed film capacitor is designed.

AC = ac, designed essentially for alternating voltages
DC = dc, designed essentially for direct voltages
PL = pulse, for use with current or voltage pulses

AAE034-005   02   M..3   A56
          simple   non-quantitative code

circuit application (capacitor) circuit appl

Code of the circuit application(s) for which a fixed capacitor is designed.

CPL = coupling
DCL = decoupling
DEL = delay
DFL = deflection
FLT = filtering
RIS = radio-interference-suppression
SMT = smoothing
TC   = temperature-compensating
TIM = timing
TUN = tuning

AAE035-005 01   M..8   A56
          simple   non-quantitative code

temperature coefficient code $a

IEC standard code of the temperature coefficient of the capacitance of a fixed class1 ceramic capacitor.

N1000   = -1000   *10**-6/K
N150   = -150   *10**-6/K
N1500   = -1500 *10**-6/K
N220   = -220   *10**-6/K
N2200   = -2200 *10**-6/K
N33   = -33   *10**-6/K
N330   = -330   *10**-6/K
N3300   = -3300 *10**-6/K
N470   = -470   *10**-6/K
N4700   = -4700 *10**-6/K
N5600   = -5600 *10**-6/K
N75   = -75   *10**-6/K
N750   = -750   *10**-6/K
NP0   = 0
P100   = +100 *10**-6/K

IEC 60384-8 (1988)

AAE036-005 01   M..3   A56
          simple   non-quantitative code

safety class   safety class

IEC standard code of the safety/voltage class of a fixed capacitor for radio interference suppression.

U   = shock danger on failure;
       <=125 V mains voltage
X1   = no shock danger on failure;
       >1,2 kV pulse
X2   = no shock danger on failure;
       <=1,2 kV pulse
Y   = shock danger on failure;
       125-250 V mains voltage

AAE037-005 02   M..3   A56
          simple   string

EIA temperature characteristic   EIA TCh code

EIA code of the temperature characteristic of a fixed class2 ceramic capacitor.

EIA RS-198-B (1991)

REMARKS:
First (alphabetic) character indicates $T_{amb-min}$:
X = – 55 degree C
Y = – 30 degree C
Z = + 10 degree C
Second (numeric) character indicates $T_{amb-max}$:
2 = + 45 degree C
4 = + 65 degree C
5 = + 85 degree C
6 = +105 degree C
7 = +125 degree C
Third (alphabetic) character indicates cap. change:
A = +/- 1 %
B = +/- 1,5%
C = +/- 2,2%
D = +/- 3,3%
E = +/- 4,7%
F = +/- 7,5%
P = +/- 10 %
R = +/- 15 %
S = +/- 22 %
T = +22/-33%
U = +22/-56%
V = +22/-82%

X7R corresponds to IEC subclass 2B4
Y5V corresponds to IEC subclass 2F4

AAE038-005 02   X..3   A57
          simple   non-quantitative code

dielectric class (ceramic cap) ceram diel cls

IEC standard code of the dielectric material class of a fixed ceramic capacitor (with regard to permittivity, losses and temperature stability).

CL1   = class1 ceramic capacitor
CL2   = class2 ceramic capacitor

AAE039-005 03   M..8   A57
          simple   non-quantitative code

film dielectric material film diel mat

ISO standard code of plastics, used to identify the dielectric material of a fixed film capacitor.

PC   = polycarbonate
PETP = polyethylene-terephthalate
PP   = polypropylene
PS   = polystyrene

AAE040-005	02	M..8	A57
	simple	non-quantitative code	

electrode material type   electrode mat

Code of the type of electrode material of an electrolytic capacitor.

Al	= aluminium
NSAl	= *non-solid aluminium
SAl	= *solid aluminium
Ta	= tantalum

AAE041-005	02	NR1..4	T07
	level nom	integer measure	
		h	

shelf life   shelf life
                           shelf life

Duration of storage test (in h) at specified ambient temperature of a fixed electrolytic capacitor. After test and reconditioning the capacitor shall meet stated requirements for change in capacitance, loss angle, dc leakage current, and impedance.

AAE014-005 = ambient temperature

IEC 60384-1 (1999)

REMARKS:
This is a modification of the IEC Dry heat test, with extended duration.

AAE042-005	03	NR3..3.3ES2	E01
	level max	real measure	
		A	

leakage current short-term   I_leak(st)
                               $I_{leak(st)}$

The maximum leakage current (in A) of a fixed electrolytic capacitor, after the rated voltage has been applied for a specified duration at specified ambient temperature, determined according to IEC 60384-1 (1999).

AAE014-005 = ambient temperature
AAE028-005 = duration

REMARKS:
For leakage current during continuous operation, see AAE043-005.

AAE043-005	02	NR3..3.3ES2	E01
	level max	real measure	
		A	

leakage current continuous   I_leak(cont)
                               $I_{leak(cont)}$

The maximum leakage current (in A) of a fixed electrolytic capacitor during continuous operation at the rated voltage at specified ambient temperature, determined according to IEC 60384-1(4.9) (1984).

AAE014-005 = ambient temperature

REMARKS:
For leakage current after a given duration: see AAE042-005.

AAE044-005	01	NR3..3.3ES2	E06
	level max	real measure	
		V	

rated voltage (dc)   U_Rdc
                           U_{Rdc}

The maximum direct voltage (in V) which may be applied continuously to a capacitor at any operating ambient temperature below the rated temperature.

AAE045-005	01	NR3..3.3ES2	E06
	level max	real measure	
		V	

rated voltage (ac)   U_Rac
ac voltage U_{Rac}

The maximum rms alternating voltage (in V), of mains frequency (50-60 Hz), which may be applied continuously to a film capacitor at any operating ambient temperature below the rated temperature.

NOTE
IEC has changed its definition from rms into peak value.

REMARKS:
For ac capacitors: rated voltage (ac).
For dc capacitors: max. ac voltage.

AAE046-005 01 **NR3..3.3ES2** **E09**
level miNoMax   real measure
                  F

capacitance   **C**
                  C

The value as specified by level (miNoMax) of the capacitance (in F) of a fixed capacitor at specified frequency and at reference conditions.

AAE029-005 = frequency
AAE995-005 = reference conditions

AAE047-001 02 **NR2 S..3.3** **E09**
level nom   real measure
                  %

capacitance upper tolerance (%) **C_ut(%)**
                                     $C_{ut(\%)}$

The upper tolerance percentage (in %) of the rated capacitance of a fixed capacitor.

AAE048-005 03 **NR2..3.3** **E49**
level max   real measure
                  W

maximum noise power **P_n**
power handling capacity P_n
rated power

The maximum noise power (in W) of a moving conductor loudspeaker calculated from the formula: maximum noise voltage squared over the rated impedance.

AAE049-005 02 **NR1..4** **E33**
level nom   integer measure
                  Ω

rated impedance **R**
                     R

The nominal substituted dc resistance (in ohms) of a moving conductor loudspeaker.

NOTE
Used when defining the available electric power of the source.

AAE050-005 02 **NR3..3.3ES2** **F03**
level max   real measure
                  Hz

resonance frequency **f_rsn**
lowest resonance frequency f_{rsn}
fundamental resonance frequency

The maximum value of the lowest resonance frequency of a moving conductor loudspeaker (in Hz), at specified mounting of loudspeaker.

AAE342-005 = mounting of loudspeaker

AAE051-005 01 **NR3..3.3ES2** **T03**
level nom   real measure
                  m

centre pole diameter **d_pole**
core diameter d_{pole}

The rounded nominal diameter (in m) of the centre pole of a moving conductor loudspeaker.

AAE053-005 01 **M..8** **A57**
simple   non-quantitative code

magnet material **magnet material**
magnet

Code of the material type of the magnet of a moving conductor loudspeaker.

CER = ceramic
RES = rare earth
STA = steel alloy

AAE054-005 01 **NR3..3.3ES2** **T03**
level nom   real measure
                  m

baffle hole length **l_bfl**
                        l_{bfl}

Recommended nominal length (in m) of the baffle hole of a moving conductor loudspeaker.

IEC 60268-14 (1980)

| AAE055-005 | 01 | M..8 | A56 |
| | simple | non-quantitative code | |

frequency application   frequency appl

Code indicating the application frequency range recommended for a moving conductor loudspeaker.

FULLR   = full range
SQUAW   = squawker (medium range)
TWEET   = tweeter   (high range)
WOOF   = woofer   (low range)

AAE056-005	01	NR3..3ES2	T03
	level nom	real measure	
		m	

baffle hole breadth   b_bfl
b_{bfl}

Recommended nominal breadth (in m) of the baffle hole of a moving conductor loudspeaker.

IEC 60268-14 (1980)

| AAE060-006 | 01 | X..3 | A52 |
| | simple | non-quantitative code | |

category EM component category EM

Code of the category to which an electromechanical component belongs.

CON = connector
CONPART = connector part
FUS = fuse
LSP = loudspeaker
MIC = microphone
MOT = motor
REL = relay
SWI = switch

| AAE061-005 | 01 | M..3 | A58 |
| | simple | non-quantitative code | |

shape of flange   flange shape

Code of the outer shape of the flange of a moving conductor loudspeaker.

CRC = circular
CRE = circular with ears
ELE = elliptical with ears
ELT = elliptical
OCT = octagonal
RCT = rectangular
SQR = square

IEC 60268-14 (1980)

AAE063-005	04	NR3..3ES2	E33
	level min	real measure	
		Ω	

insulation resistance   R_ins
R_{ins}

The minimum insulation resistance (in ohms) between terminals of a fixed capacitor, determined according to IEC 60384-1(4.5) (1999) at reference conditions.

AAE995-005 = reference conditions

REMARKS:
1 The insulation resistance is measured after a voltage has been applied for 1 min +/- 5 s. The relationship between this voltage and the rated voltage (dc) is prescribed in IEC 60384-1 (1999).

Voltage rating of capacitor	Measuring voltage
U_R or U_C < 10 V	U_R or U_C +/-10%
10 V <= U_R or U_C < 100 V	10 +/- 1 V
100 V <= U_R or U_C < 500 V	100 +/-15 V
500 V <= U_R or U_C	500 +/-50 V

2 AAE063-005 is prescribed by IEC for specific capacitor types. See also AAE069-005

AAE064-005	02	NR3..3ES2	E44
	level max	real measure	
		Ω	

equivalent series resistance   ESR
ESR

The maximum equivalent series resistance (in ohms) of an electrolytic capacitor at specified frequency and at the reference conditions.

NOTE
The ESR corresponds to the real part of the impedance.

AAE029-005 = frequency
AAE995-005 = reference conditions

AAE065-005 03   NR3..3ES2   E44
level nom   real measure
1

tangent of loss angle   tan$d
dissipation factor   tan δ

The tangent of the loss angle of a capacitor at specified frequency and at reference conditions.

NOTE
The tangent of the loss angle is equal to the equivalent series resistance divided by the capacitive reactance.

AAE029-005 = frequency
AAE995-005 = reference conditions

REMARKS:
(IEC 60418-3 (1976)): The rotor should be set at minimum and maximum positions for the tan delta test on variable capacitors.
IEC requires the voltage to be specified.
N.B. Reciprocal of tan delta is quality factor Q.

AAE066-005 01   NR3..3ES2   F02
level min   real measure
s

time constant (of capacitor)   RC
RC product   RC

The minimum product (in s) of the insulation resistance between terminals and the nominal capacitance of a fixed capacitor.

REMARKS:
According to IEC, this DE-type is used for the following groups of capacitors:

polycarbonate film	> 0.33 uF
polyethylene-terephthalate	> 0.33 uF
polypropylene film	> 0.33 uF
polypropylene film/foil	> 0.1 uF
polystyrene	> 0.1 uF
mica	> 0.01 uF
ceramic class 1	> 10 nF
ceramic class 2	> 25 nF
radio interference suppressors	> 0.33 uF

For lower values use R_{ins} (AAE063-005)

AAE067-005 01   NR3 S..3ES2   H03
level miNoMax   real measure
K^{-1}

temperature coefficient (cap) TC
TC

The value as specified by level (miNoMax) of the temperature coefficient (in K^{-1}), relative to the nominal capacitance, of a fixed capacitor.

IEC 60384-1 (1999)

REMARKS:
The temperature coefficient of variable capacitors is measured at rotor settings and temperatures as given in IEC 60418-1 (1974).

AAE068-005 01   NR3..3ES2   E09
level miNoMax   real measure
F

maximum capacitance   C_max
C_{max}

The value as specified by level (miNoMax) of the maximum capacitance (in F) obtainable by moving the actuating device of a variable capacitor.

AAE069-005 01   NR3..3ES2   E09
level miNoMax   real measure
F

minimum capacitance   C_min
C_{min}

The value as specified by level (miNoMax) of the minimum capacitance (in F) obtainable by moving the actuating device of a variable capacitor.

AAE070-005 01   M..3   A56
simple   non-quantitative code

adjustability class   adjustabl class

Code of the adjustability class of a variable capacitor or potentiometer.

CTL = control (potentiometer)
PRE = preset
TRM = trimmer
TUN = tuning (capacitor)

AAE071-005   **02**   **NR2 S..3.3**   **E09**
level nom   real measure
%

capacitance tolerance   **C_tol**
C_{tol}

The nominal tolerance on capacitance (in %) identifying a capacitor.

REMARKS:
Used only in cases of equal positive and negative tolerance values.

AAE072-005 **01**   **NR3..3.3ES2**   **T03**
level miNoMax   real measure
m

terminal length   **l_term**
l_{term}

The value as specified by level (miNoMax) of the length (in m) of the terminals of an electric-electronic or electromechanical component extending below the seating plane.

AAE073-005 **02**   **NR1..4**   **T07**
level nom   integer measure
h

endurance   **endurance**
endurance

The nominal duration of the endurance test (in h) according to IEC 60384-4 (1998) at the rated voltage (dc) and at specified ambient temperature, which a fixed electrolytic capacitor shall withstand.

AAE014-005 = ambient temperature

AAE074-005 **03**   **M..8**   **A56**
simple   non-quantitative code

IC application field   **IC appl field**

Code identifying the equipment in which an application oriented IC is used.

AO	= application field
ARI	= **traffic warning system
AUD	= *audio
AUT	= *automotive
CAM	= **camera
CAR	= **car radio
CD	= **compact disc
CLWTCH	= *clocks and watches
CREC	= **camera recorder
DCOM	= **data communications
DIAL	= **dialler
DIS	= **display
E/W	= ***east/west correction
GAM	= **games
GP	= general purpose
HAID	= **hearing aid
HOR	= ***horizontal
MOB	= ***mobile telephony
MTR	= ***multi-tone ringer
PASY	= **paging system
RC	= **radio recorder
REC	= **recorder
REM	= **remote control
RR	= **radio receiver
SPS	= ***speech synthesizer
SYNC	= ***synchronization
TCOM	= *telecommunications
TEL	= **telephony
TV	= **television receiver
TXT	= ***teletext
VCR	= **recorder
V-DEFL	= ***vertical deflection
VERT	= ****vertical
VID	= *video

AAE076-005 02   M..3   A57
simple   string

dielectric subclass 2   diel subclass2

IEC standard code of the subclass of a fixed class2 ceramic capacitor, as determined by the temperature characteristic of capacitance.

IEC 60384-9 (1988)

REMARKS:
First (numeric) character is always 2 (see AAE038-005)
Second (alphabetic) character indicates maximum capacitance change in per cent with respect to C_R at 20 deg C:

	$U_{dc} = 0$	$U_{dc} = U_{R(dc)}$
B	+/-10	+10/-15
C	+/-20	+20/-30
D	+20/-30	+20/-40
E	+20/-56	+20/-70
F	+30/-80	+30/-90
R	+/-15	+15/-40
X	+/-15	+15/-25

Third (numeric) character indicates temperature range:

1 -55/+125 deg C
2 -55/+ 85 deg C
3 -40/+ 85 deg C
4 -25/+ 85 deg C
6 +10/+ 85 deg C

AAE077-005 01   X..3   A56
simple   non-quantitative code

signal type   signal type

Code identifying a function on an IC according to the type of signal being treated.

AD   = AD (analogue/digital)
ANA = analogue
DIG = digital
PER = periodic/dc

AAE084-005 03   M..8   A56
simple   non-quantitative code

analogue function   analog function

Code identifying an analogue signal function of an IC.

AMP   = amplifier
BDP   = *band pass
COMP   = comparator
DCC   = *dc controlled
DEC   = decoder
DEM   = demodulator
DOLBY = **Dolby
ENC   = encoder
FIL   = filter
FS   = *frequency synthesizer
MIX   = *mixer
MOD   = modulator
OPAMP = *operational
PREAMP = *preamplifier
PRESC = *prescaler
RED   = *noise reduction
SUP   = *interference suppression
TUN   = tuner

AAE085-005 01   X..3   A56
simple   non-quantitative code

digital function   dig function

Code identifying a digital function of an IC.

CSI   = CSI (combinatorial sequential interface)
MUC   = microcontroller
MUP   = microprocessor
PLD   = PLD (programmable logic device)
STO   = storage

AAE086-005 02   NR2 S..3.3   E06
level minMax   real measure
V

supply voltage limit   V_sup
dc supply voltage V_{sup}

The value as specified by level (minMax) of the limiting direct supply voltage (in V) applied to an IC.

REMARKS:
Commonly known supply voltage symbols:
V_{CC} for TTL, NMOS and HCMOS circuits
V_{DD} for CMOS circuits
V_P for analogue circuits
V_{EE} for ECL circuits

AAE092-005 01   NR2 S..3.3   E06
level minTypMax   real measure
V

HIGH-state output voltage   V_OH
HIGH-level output voltageV_{OH}
output voltage HIGH

The value as specified by level (minTypMax) of the HIGH-state dc output voltage (in V) of a digital function of an IC, at specified supply voltage, output current, logic input voltages and in a temperature range between specified temperatures (T_1 and T_2).

AAE102-005 = supply voltage
AAE226-005 = output current
AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

IEC 60748-2 (1997)

REMARKS:
It is required that the value of the logic input voltages falls within either the V_{IH} or the V_{IL} range.

AAE093-005 01   NR2 S..3.3   E06
level minTypMax   real measure
V

HIGH-state output voltage ref V_OHref
HIGH-level output voltageV_{OHref}
output voltage HIGH

The value as specified by level (minTypMax) of the guaranteed HIGH-state dc output voltage (in V) of a digital function of an IC, at reference input voltages, specified supply voltage and output current, and in a temperature range between specified temperatures (T_1 and T_2).

AAE102-005 = supply voltage
AAE226-005 = output current
AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

IEC 60748-2 (1997)

REMARKS:
It is required that the value of the reference input voltages is either zero (GND/V_{SS}), or equal to the supply voltage (V_{CC}/V_{DD}).

AAE094-005 01   NR2 S..3.3   E06
level minTypMax   real measure
V

LOW-state output voltage ref V_OLref
LOW-level output voltage V_{OLref}
output voltage LOW

The value as specified by level (minTypMax) of the guaranteed LOW-state dc output voltage (in V) of a digital function of an IC, at reference input voltages, specified supply voltage and output current, and in a temperature range between specified temperatures (T_1 and T_2).

AAE102-005 = supply voltage
AAE226-005 = output current
AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

IEC 60748-2 (1997)

REMARKS:
It is required that the value of the reference input voltages is either zero (GND/V_{SS}), or equal to the supply voltage (V_{CC}/V_{DD}).

AAE097-005 01   NR2 S..3.3   E06
level minTypMax   real measure
V

LOW-state output voltage   V_OL
LOW-level output voltage V_{OL}

The value as specified by level (minTypMax) of the LOW-state dc output voltage (in V) of a digital function of an IC, at specified supply voltage, output current, logic input voltages and in a temperature range between specified temperatures (T_1 and T_2).

AAE102-005 = supply voltage
AAE226-005 = output current
AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

IEC 60748-2 (1997)

REMARKS:
It is required that the value of the logic input voltages falls within either the V_{IH} or the V_{IL} range.

AAE102-005	01	NR2 S..3.3	E06
	simple	real measure	
		V	

supply voltage **@V_sup**
dc supply voltage   @V$_{sup}$

The direct supply voltage (in V) applied to an IC, as a variable.

REMARKS:
Commonly known supply voltage symbols: V$_{CC}$ for TTL, NMOS and HCMOS circuits V$_{DD}$ for CMOS circuits V$_P$ for analogue circuits V$_{EE}$ for ECL circuits

AAE106-005	03	NR1..4	Q56
	level nom	integer measure	
		1	

number of functions **N_func**
                          N$_{func}$

Number of identical functions of a multiple function component.

REMARKS:
Such as identical functions on one IC.

AAE111-005	01	M..3	A53
	simple	non-quantitative code	

packing type   **packing type**

Code of the packing type at specified packing level for products.

AMM = ammopack
BAG = bag
BLI = blister
BOX = box
CAS = cassette
CON = container
PAL = pallet
RAL = rail
RL   = reel
TRA = tray

REMARKS:
This data element must be used in combination with AAF270-005 (packing level).

AAE112-005	02	M..3	A53
	simple	non-quantitative code	

taping   **taping**

Code of taping for automatic handling of products.

AX   = axial (tape for axial leads)
BL   = blister (tape for SMD)
CB   = cardboard (tape for SMD)
RD   = unidirectional (tape for radial leads)

AAE113-005		01	NR1..4	H03
	level max	integer measure		
		K^{-1}		

temperature coefficient **$a**
                             α

The maximum reversible variation of the resistance (in K^{-1}) of a fixed linear resistor or a potentiometer.

IEC 60115-1 (1999)

AAE114-007	01	X..8	A57
	simple	non-quantitative code	

linearity of a fixed resistor   **linearity**

Code of linearity class to which a fixed resistor belongs.

LIN = linear
NLN = non-linear

AAE115-005	01	NR1..4	H02
	level max	integer measure	
		Cel	

maximum surface temperature   **T_surf**
maximum body temperature   T$_{surf}$
hot spot temperature

The maximum surface temperature (in Cel) of a fixed resistor.

IEC 60115-1 (1999)

AAE116-005	02	M..8	A57
	simple	non-quantitative code	

resistive material   **resistive mat**
resistance element material

Code of the resistive material of a fixed linear or a variable resistor.

C   = carbon
CEM   = *cemented
CER   = *ceramic (rectangular)
CERMET = ceramic/metal
EN   = *enamelled
MGL   = metal glaze
MTL   = metal
WW   = wirewound

REMARKS:
For potentiometers, the term cermet is used instead of metal glaze.
Cermet is an acronym for ceramic and metal. With this type, the resistive element is a metal glaze compound deposited on a ceramic substrate.

AAE118-005	01	NR1..4	E06
level max	integer measure		
	V		

limiting element voltage (dc) U_max(dc)
limiting voltage (dc) $U_{max(dc)}$

The maximum limiting dc voltage (in V) that may be applied to a resistor.

AAE119-005	01	NR3..3ES2	E33
level miNoMax	real measure		
	Ω		

resistance **R**
R
R_{ac}

The value as specified by level (miNoMax) of the resistance (in ohms) of a fixed linear resistor or variable resistor.

IEC 60115-1 (1999)

REMARKS:
The symbol R_{ac} is used for potentiometers. The value of R_{ac} is measured between the end terminals of potentiometers and between the end positions of two-terminal resistors.

| AAE122-005 | 01 | X..3 | A56 |
| simple | non-quantitative code | | |

resistance dependency res dependency

Code of the physical dependency to which a non-linear fixed resistor belongs.

LDR = light dependent resistor
TDR = thermistor (temperature)
VDR = varistor (voltage)

AAE123-005	01	NR3..3ES2	E33
level min	real measure		
	Ω		

dark resistance R_D
R_D

The minimum value of the dark resistance (in ohms) of a light dependent resistor.

AAE124-005	01	NR3..3ES2	E33
level minMax	real measure		
	Ω		

light resistance R_L
R_L

The value as specified by level (minMax) of the light resistance (in ohms) of a light dependent resistor.

AAE125-005	01	NR2..3.3	E01
simple	real measure		
	A		

current (pulse) @I_pul
$@I_{pul}$

The peak value of a pulse current (in A) passed through an electric, electronic or electromechanical component, as a variable.

| AAE126-005 | 02 | X..3 | A56 |
| simple | non-quantitative code | | |

thermistor type TDR type

Code of the sign of the temperature coefficient belonging to a thermistor.

NTC = negative temperature coefficient
PTC = positive temperature coefficient

AAE127-005	01	NR3..3ES2	E33
level miNoMax	real measure		
	Ω		

resistance at 25 Cel R_25
R_{25}

The value as specified by level (miNoMax) of the resistance of a thermistor at an ambient temperature of 25 Cel.

AAE130-005	01	NR2..3.3	H07
level nom	real measure		
	W/K		

dissipation factor $D
Δ

The ratio of the power dissipation change to the resultant body temperature change (in W/K) of a thermistor at a specified ambient temperature.

AAE014-005 = ambient temperature

IEC 60539-1 (2002)

AAE131-005 01   NR2..3.3   F02
                level nom   real measure
                              s

thermal time constant $t
                         T
                         T_{th}

The nominal thermal time constant (in s) of a thermistor.

REMARKS:
IEC 60539-1 (2002)
The time required for the temperature of a thermistor to change by 63,2 % of the difference between its initial and final temperatures when subjected to a step function change in temperature under zero-power conditions.

AAE132-005 02   NR1..4   H01
                level miNoMax   integer measure
                                K

thermal sensitivity index B25/85   B_25/85
B_25/85 value $B_{25}/85$

The value as specified by level (miNoMax) of the mean temperature sensitivity index (in K) of an NTC thermistor between 25 and 85 Cel.

IEC 60539-1

AAE135-005 02   NR3..3.3ES2   H15
                level nom   real measure
                              J/K

heat capacity   C
                         C
                         H

The nominal heat capacity (in J/K) of a PTC resistor or piezoelectric device.

ISO 31-4 (1992)

AAE136-005 01   NR3..3.3ES2   E01
                level min   real measure
                              A

trip current   I_t
                         I_t

The minimum rms ac current (in A) that will trip a PTC thermistor from the low resistance region to the high resistance region, at specified ambient temperature.

AAE014-005 = ambient temperature

AAE137-005 01   NR3..3.3ES2   E01
                level max   real measure
                              A

non-trip current   I_nt
                         I_{nt}

The maximum rms ac current (in A) at which a PTC thermistor will stay in the low resistance region, at specified ambient temperature.

AAE014-005 = ambient temperature

AAE138-005 01   NR1..4   H02
                level nom   integer measure
                              Cel

switching temperature T_sw
switch temperature T_{sw}

The nominal temperature (in Cel), under zero power conditions, at which the resistance value of a PTC thermistor is twice the R_{min} value.

AAE139-005 01   X..3   A52
                simple   non-quantitative code

number of terminals   number of term

Code of the number of terminals identifying a variable resistor.

POT   = potentiometer (3 or more terminals)
TT   = two-terminal variable resistor

AAE141-005 01   M..8   A52
                simple   non-quantitative code

resistance law (IEC)   resistance law

IEC code of the resistance law of a potentiometer.

law-A = linear law
law-B = logarithmic law
law-C = inverse logarithmic law

REMARKS:
The relationship of the measured resistance value between terminations a and b or of the output ratio U_{ab}/U_{ac} to the mechanical position of the moving contact.

| AAE142-005 | 01 | M..3 | A52 |
| | simple | non-quantitative code | |

actuator type   **actuator type**
moving contact actuator type

Code of the moving contact actuator type of a potentiometer.

ROT = rotary
SLD = slide

| AAE144-005 | 01 | M..3 | A58 |
| | simple | non-quantitative code | |

mounting position   **mtg position**

Code of the (intended) mounting position of a potentiometer with printed wiring pins.

HOR = horizontal version
VER = vertical version

| AAE145-005 | 02 | M..3 | A57 |
| | simple | non-quantitative code | |

spindle material of potentiometer   spindle mat
spindle material

Code of the spindle material of a rotary potentiometer.

MTL = metal
PLA = plastic

AAE146-005	01	NR1..4	E06
	level max	integer measure	
		dB	

ganging tolerance   **ganging tol**
ganging tol

The maximum ganging tolerance (in dB) of a tandem potentiometer.

AAE147-005	01	NR3..3.3ES2	T03
	level nom	real measure	
		m	

spindle length   **l_spin**
l_{spin}

The nominal length (in m) of the spindle of a rotary potentiometer.

REMARKS:
The spindle length is measured with reference to the mounting surface of the potentiometer.

AAE148-005	01	NR3..3.3ES2	T03
	level nom	real measure	
		m	

spindle diameter   **d_spin**
d_{spin}

The nominal diameter (in m) of the spindle of a rotary potentiometer.

| AAE149-005 | 02 | M..17 | A59 |
| | simple | non-quantitative code | |

safety approval   **safety approval**

The abbreviated name of the office which has approved the safety of an electric, electronic or electromechanical component.

BEAB(BSI) = British Electrical Approvals Board
CEBEC   = Comite Electrotechnique Belge (Belgium)
CSA   = Canadian Standards Association
DEMKO   = Danmarks Elektriske Materiellkontrol
EI   = Elektriska Inspektorated (Finland)
HHS   = Health and human services (USA)
JIS   = Japanese Industrial Standards (Committee)
KEMA   = Keuring van Elektrotechnische Materialen
LCIE   = Laboratoire Central Industries Electrique
MED   = Medizin Geraete Verordnung (West Germany)
NEMKO   = Norges Elektriske Materiellkontrol (Norway)
OEVE   = Oesterreichischer Elektrotechnischer Verein
ROV   = Rontgen Verordnung (West Germany)
SEMKO   = Svenska Elektriska Materielkontrollanstalten
SEV   = Schweizerischer Elektrotechnischer Verein
UL   = Underwriters' Laboratories Inc. (USA)
VDE   = Verband Deutscher Elektrotechnischer Verein

AAE150-005	01	NR3..3.3ES2	E06
	simple	real measure	
		V	

voltage (ac)   **@U_ac**
$@U_{ac}$

The rms sinusoidal voltage (in V) applied to an electric, electronic or electromechanical component, as a variable.

AAE151-005 01   M..8   A52
         simple   non-quantitative code

winding configuration   winding config
separation

Code of the winding configuration of a transformer or inductive antenna.

AUTO   = auto
SEPRT   = separate

AAE152-005 01   X..3   A56
         simple   non-quantitative code

power/signal   power/signal

Code of the application of a transformer or cable.

POW = power
SIG = signal

AAE155-005 01   NR3..3ES2   E33
         level min   real measure
                     Ω

insulation resistance   R_ins
                         R_{ins}

The minimum insulation resistance (in ohms) between the live and non-live parts of a switch, relay, transformer or connector.

IEC 60068 (1969)

REMARKS:
IEC 60742 (1983)
The insulation resistance is measured with dc voltage of approximately 500 V applied, the measurement being made 1 min after application of the voltage.

AAE156-005 01   NR3..3ES2   F03
         level nom   real measure
                     Hz

upper frequency   f_upr
                         f_{upr}

The nominal upper frequency (in Hz) of a signal transformer.

AAE157-005 01   NR1..4   F03
         level nom   integer measure
                     Hz

lower frequency   f_low
                         f_{low}

The nominal lower frequency (in Hz) of a signal transformer.

AAE158-005   01   NR3..3ES2   T03
         level min   real measure
                     m

clearance to earth   clearance
spark gap   clearance
spark distance

The minimum clearance to earth (in m) of a power transformer.

IEC 60050 (441) (1984)

AAE159-005   01   NR3..3ES2   T03
         level min   real measure
                     m

creepage distance   d_crpg
leakage path d_{crpg}

The minimum creepage distance (in m) between live and non-live parts of a power transformer or connector.

IEC 60742 (1983)

AAE160-005   01   NR1 S..4   E01
         level nom   integer measure
                     A

nominal output current I_out
                         I_{out}

The nominal output current (in A) of a power transformer, at nominal input voltage and nominal frequency.

IEC 60742 (1983)

REMARKS:
For variable power transformers, the nominal output current is valid over the whole range.

AAE163-005   01   NR1..4   E06
         level miNoMax   integer measure
                         V

input voltage   U_in
supply voltage U_{in}

The value as specified by level (miNoMax) of the rms sinusoidal input voltage (in V) of a power transformer.

REMARKS:
IEC 60742 (1983):
For polyphase supply, the line voltage is intended.

AAE164-005	01	NR1..4	E06
	level max	integer measure	
		V	

no-load output voltage   **U_out(open)**
$U_{out(open)}$

The maximum rms no-load output voltage (in V) at nominal input voltage and at nominal frequency.

IEC 60742 (1983)

AAE165-005	02	NR3..3.3ES2	E49
	level nom	real measure	
		VA	

output power   **P_out**
P_{out}

The nominal rms power (in VA) of a power transformer.

IEC 60076-1 (1976)

AAE166-005	01	NR3..3.3ES2	F03
	level miNoMax	real measure	
		Hz	

operating frequency   **f_oper**
f_{oper}

The value as specified by level (miNoMax) of the frequency (in Hz) of a power transformer.

IEC 60076-1 (1976)

AAE167-005	02	M..3	A56
	simple	non-quantitative code	

transformer model   **tfm model**

Code of the model of a variable power transformer.

BNC = bench (protective housing)
LBR = *laboratory (bench model with handle, cable, fuse)
PNL = panel (not protected live parts)

AAE168-005	01	NR1..4	E01
	level max	integer measure	
		A	

maximum output current   **I_out**
continuous overload I_{out}

The maximum continuous sinusoidal rms output current (in A) in the most favourable brush position of a variable power transformer at nominal input voltage and nominal frequency.

AAE169-005	02	NR1..4	E06
	level nom	integer measure	
		V	

output voltage   **U_out**
U_{out}

The nominal rms sinusoidal output voltage (in V) at total rotation angle of a variable power transformer.

IEC 60186 (1987)

AAE170-005	02	NR3..3.3ES2	Q59
	level min	real measure	
		1	

brush life   **N_turn**
N_{turn}

The minimum guaranteed number of two-way turns of the brush of a variable power transformer.

NOTE
After the test the contact resistance shall be within its tolerance.

AAE171-005	02	NR3..3.3ES2	Q59
	level min	real measure	
		1	

brush life expectation   **N_turn(exp)**
$N_{turn(exp)}$

The minimum expectation of the number of two-way turns of the brush of a variable power transformer.

AAE172-005	02	NR1..4	Q56
	level nom	integer measure	
		1	

ganging number   **N_gang**
number of variable elements N_{gang}

The number of variable elements (capacitors, resistors, power transformers) with a common actuating device.

AAE173-005 01   **NR1..4**   **T01**
            level nom   integer measure
                        deg

total mechanical rotation   **$a_rot**
angle of mechanical rotation α_{rot}

The nominal angle of the total rotation (in deg) of the
moving contact actuator of a rotary potentiometer or
a variable power transformer.

AAE174-005 01   **M..3**   **A51**
            simple   non-quantitative code

magnet type   **magnet type**
magnetisation system
magnet material

Code of the magnet type of the iron armature of a
motor.

ELM = electromagnet
HBD = hybrid
NOM = no magnet
PMM = permanent magnet

AAE175-005 01   **M..3**   **A51**
            simple   non-quantitative code

coil connection   **coil connection**

Code of the coil connection of a motor.

CMP = compound
SHP = shunt (parallel)
SRS = series

AAE176-005 01   **M..3**   **A51**
            simple   non-quantitative code

armature material   **armature mat**

Code of the type of material of the armature of a
motor.

IRL = iron-less
IRN = iron

AAE177-005 03   **M..8**   **A51**
            simple   non-quantitative code

integrated component   **integr comp**

Code indicating a component integrated with a motor
or relay.

BRAKE   = brake
EBRAKE   = *brake electromagnetic
ENCOD   = encoder
GEAR   = gearbox
LGEAR   = *gearbox linear
MBRAKE   = *brake mechanical
PBRAKE   = *brake permanent magnetic
PINION   = pinion
RGEAR   = *gearbox rotational
SPARKS   = spark suppressor
TACHO   = tachogenerator

AAE178-005 01   **X..3**   **A52**
            simple   non-quantitative code

supply current type   **I_sup type**

Code of the supply current type for which a motor
has been designed.

AC   = ac
DC   = dc
STP = stepping motor (pulse)
UNI = universal motor (ac or dc)

AAE179-005 01   **X..3**   **A52**
            simple   non-quantitative code

trajectory of motion   **trajectory**

Code of the trajectory of motion of the armature of a
motor.

LIN   = linear
ROT   = rotational

AAE180-005 01   **NR3..3.3ES2**   **E06**
            level nom   real measure
                        V/(r/min)

electromotive force   **E**
                            E

The nominal rated induced voltage in V/(r/min) in the
winding of a motor as a result of the magnetic field
and the motion.

IEC 60050 (131) (2002)

AAE182-005 02   NR3..3.3ES2   E49
level nom   real measure
W

input power   P_in
P$_{in}$

The nominal electric power (in W) supplied to a motor.

IEC 60050 (151) (2001)

AAE183-005 02   M..8   A52
simple   non-quantitative code

ac motor synchronism   motor syn

Code indicating the synchronism of an ac motor.

ASYN = asynchronous
SREL = *reluctance
SYN = synchronous

AAE184-005 01   NR3..3.3ES2   E06
level nom   real measure
V

rated input voltage (ac) U_ac
driving voltage   U$_{ac}$

The nominal rms alternating voltage (in V) at the terminals of an ac motor.

NOTE
For polyphase supply, the line voltage is intended.

IEC 60034-1 (2004)

AAE186-005 01   NR3..3.3ES2   E06
level nom   real measure
V

rated input voltage (dc) U_dc
U$_{dc}$

The nominal direct voltage (in V) at the terminals of a dc motor.

IEC 60034 (1983)

AAE187-005 01   NR3..3.3ES2   F02
level min   real measure
s

mechanical time constant $t
$_T$

The minimum value of the time (in s) an unloaded dc motor needs, starting from rest, to reach 63 % of the unloaded speed at the rated input voltage.

AAE188-005 02   M..3   A56
simple   non-quantitative code

direction of rotation   dir rot

Code of the direction of rotation as seen from the spindle of a rotational motor.

CCW = anti-clockwise (counter-clockwise)
CW = clockwise
REV = reversible

REMARKS:
The sense of rotation when looking along the shaft from the drive end of the motor towards the non-drive end.

AAE189-005 03   NR3..3.3ES2   K07
level nom   real measure
kg.m^2

rotor inertia   I
I
J

The nominal rotor moment of inertia (in kg.m^2) of a rotational motor.

AAE190-005 02   NR2..3.3   K09
level max   real measure
N

maximum radial force   F_rad
F$_{rad}$

The maximum radial force (in N) on the spindle of a motor.

AAE191-005 02   NR3..3.3ES2   K12
level nom   real measure
N.m

rated torque   T_rat
max working torque   T$_{rat}$
max load torque

The nominal torque (in N.m) of a rotational motor.

IEC 60050 (411) (1996)

AAE192-005 02   NR3..3.3ES2   K12
simple   real measure
N.m

torque   @T
@T

Torque (in N.m) of a rotational motor, as a variable.

AAE193-005 01   NR3..3.3ES2   F03
          simple   real measure
                      r/min

speed   @v
                        @v

Speed (in r/min) of a rotational motor, as a variable.

AAE194-005 01   NR1..4   F03
          level nom   integer measure
                      r/min

synchronous speed   v_syn
                      v_{syn}

The nominal speed of rotation (in r/min) of a synchronous rotational ac motor.

NOTE
This is a result of the system to which the machine is connected and either the number of poles or the number of projections in the machine, at a given (fixed) frequency.

IEC 60050 (411)(1996)

AAE195-005 01   NR3..3.3ES2   F03
          level nom   real measure
                      r/min

rated speed   v_rat
                        v_{rat}

The nominal speed (in r/min) of a rotational ac asynchronous or dc motor at the rated input voltage and rated torque.

AAE196-005 02   NR3..3.3ES2   K12
          level min   real measure
                      N.m

starting torque   T_strt
                        T_{strt}

The minimum starting torque (in N.m) which a rotational ac motor develops with the rated input voltage-ac applied.

NOTE
For capacitor motors, the capacitance has to be specified.

IEC 60050 (411) (1996)

AAE197-005 01   NR3..3.3ES2   E01
          level nom   real measure
                      A

rated input current   I
                          I

The nominal direct input current (in A) of a rotational dc motor at rated input voltage and at rated working torque.

AAE199-005 02   NR3..3.3ES2   K12
          level min   real measure
                      N.m

starting torque   T_strt
                        T_{strt}

The minimum starting torque (in N.m) which a rotational dc motor develops with the rated input voltage (dc) applied.

IEC 60050 (411) (1996)

AAE200-005 02   NR2..3.3   K09
          level max   real measure
                      N

maximum axial force   F_ax
                        F_{ax}

The maximum axial force (in N) on the spindle of a rotational motor.

NOTE
Axial means in line with the shaft (pull or push).

AAE201-005 02   NR2..3.3   K12
          level max   real measure
                      N.m

pull-out torque   T_pull-out
breakdown torque $T_{pull-out}$
maximum work torque

The maximum torque (in N.m) that a rotational stepping motor can develop while running at a given stepping rate without losing steps.

AAE209-005 = stepping rate

IEC 60050 (411) (1996)

AAE202-005 02   **NR3..3.3ES2**   **K12**
     level max   real measure
              N.m

pull-in torque   **T_pull-in**
max pull-in $T_{pull\text{-}in}$

The maximum torque (in N.m) that a rotational stepping motor can develop when starting at a given stepping rate without losing steps.

AAE209-005 = stepping rate

IEC 60050 (411) (1996)

AAE203-005 01   **NR3..3.3ES2**   **E01**
     level nom   real measure
              A

current per phase   **I_ph**
                           I_{ph}

The nominal rms input current (in A) of a linear stepping motor.

AAE204-005 01   **NR3..3.3ES2**   **E06**
     level nom   real measure
              V

rated input voltage (pulse)   **U_pul**
                           U_{pul}

The nominal pulse voltage (in V) at the terminals of a stepping motor.

IEC 60034-1 (2004)

AAE205-005 01   **NR1..4**   **F03**
     level max   integer measure
              step/s

pull-in rate   **pull-in rate**
                           pull-in rate

The maximum switching rate (in step/s) at which an unloaded stepping motor can start without losing steps.

AAE206-005 01   **NR1..4**   **F03**
     level max   integer measure
              step/s

pull-out rate   **pull-out rate**
                           pull-out rate

The maximum switching rate (in step/s) which an unloaded stepping motor can follow without losing steps.

AAE207-005 02   **NR3..3.3ES2**   **K12**
     level max   real measure
              N.m

holding torque   **T_hold**
                           T_{hold}

The maximum steady torque (in N.m) that can be externally applied to the spindle of an excited motor without causing continuous rotation.

AAE208-005 01   **NR1 S..4**   **T01**
     level nom   integer measure
              deg

step angle   **$a_step**
                           α_{step}

The nominal angle (in deg) between adjacent step positions of a stepping motor or a mechanical rotary switch.

AAE209-005 02   **NR3..3.3ES2**   **F03**
     simple   real measure
              step/s

stepping rate   **@step rate**
                           @step rate

Number of steps/s of a rotational stepping motor, as a variable.

AAE210-005 02   **NR2 S..3.3**   **E06**
     level minMax   real measure
              V

input voltage limit   **V_llim**
                           V_{llim}

The value as specified by level (minMax) of the limiting direct input voltage (in V) applied to an IC.

AAE212-005 01   **NR3..3.3ES2**   **E33**
     simple   real measure
              Ω

load resistance   **@R_L**
                           $@R_L$

Load resistance (in ohms) at the output of an electric, electronic or electromechanical component, as a variable.

| AAE214-005 | 02 | NR2..3.3 | H07 |
| | level max | real measure W | |

power dissipation per output   P/out
dc power dissipation/output   P/out

The maximum permissible power dissipation per output (in W) of an IC at specified ambient temperature.

AAE014-005 = ambient temperature

| AAE217-005 | 02 | NR3 S..3.3ES2 | E01 |
| | level max | real measure A | |

input current limit   I_Ilim
dc input diode current I_{Ilim}
input clamping current I_{INlim}
                            I_{IKlim}

The maximum limiting dc input current (in A) of a digital function of an IC.

REMARKS:
For ICs containing protection diodes, clamping occurs when the applied input voltage exceeds the supply voltage, or drops below GND or V_{SS} level.

| AAE218-005 | 02 | NR3 S..3.3ES2 | E01 |
| | level max | real measure A | |

output current limit   I_Olim
dc output diode current I_{Olim}
output clamping current I_{OKlim}

The maximum limiting dc output current (in A) of a digital function of an IC.

REMARKS:
For ICs containing protection diodes, clamping occurs when the applied output voltage exceeds the supply voltage, or drops below GND or V_{SS} level.

| AAE223-005 | 01 | NR3 S..3.3ES2 | E01 |
| | level max | real measure A | |

input leakage current   I_I
                            I_I
                            I_{IN}

The maximum guaranteed input leakage current (in A) of a digital function of an IC, at specified supply voltage and in a temperature range between specified temperatures (T_1 and T_2).

AAE102-005 = supply voltage
AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

REMARKS:
Required input condition (V_I):
For CMOS and HCMOS, zero (GND/V_{SS}) or supply voltage (V_{CC}/V_{DD}).
For TTL, only valid for an input voltage equal to V_{CC}.

| AAE224-005 | 01 | NR2 S..3.3 | E06 |
| | simple | real measure V | |

input voltage   @V_I
                          $@V_I$

The dc input voltage (in V) of an IC, as a variable.

| AAE225-005 | 02 | NR3..3.3ES2 | T07 |
| | simple | real measure s | |

rise time   @t_r
                          $@t_r$

The rise time (in s) of a step function change (10% to 90%) of a signal applied to an electric-electronic or electromechanical component, as a variable.

| AAE226-005 | 01 | NR3 S..3.3ES2 | E01 |
| | simple | real measure A | |

output current   @I_O
                          $@I_O$

The dc output current (in A) of an IC, as a variable.

AAE228-005 01   NR2 S..3.3   E06
          simple   real measure
          V

output voltage   **@V_o(dc)**
          @$V_{o(dc)}$

The dc output voltage (in V) of an IC, as a variable.

AAE231-005 02   NR3..3.3ES2   T07
          level minTypMax   real measure
          s

propagation delay   **t_PD**
delay time t_{PD}

The value as specified by level (minTypMax) of the propagation delay time (in s) of a combinatorial, sequential or interface function of an IC in a temperature range between specified temperatures (T_1 and T_2).

AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

AAE233-005 02   NR3..3.3ES2   T07
          level minTypMax   real measure
          s

HIGH to LOW propagation time   **t_PHL**
HIGH to LOW delay time t_{PHL}

The value as specified by level (minTypMax) of the HIGH to LOW propagation time (in s) of a combinatorial, sequential or interface function of an IC in a temperature range between specified temperatures (T_1 and T_2).

AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

IEC 60748-2 (1997)

AAE235-005 02   NR3..3.3ES2   T07
          level max   real measure
          s

output fall time   **t_f**
HIGH to LOW transition time t_f
switching time t_{THL}

The maximum guaranteed HIGH-level to LOW-level transition time (in s) at the output of a digital function of an IC at specified load capacitance, supply voltage and in a temperature range between specified temperatures (T_1 and T_2).

AAE102-005 = supply voltage
AAE256-005 = load capacitance
AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

IEC 60748-2 (1997)

REMARKS:
The voltage level specified for the beginning of the slope is 10 %, that for the end of the slope is 90 %.

AAE237-005 02   NR3..3.3ES2   T07
          level minTypMax   real measure
          s

LOW to HIGH propagation time   **t_PLH**
LOW to HIGH delay time t_{PLH}

The value as specified by level (minTypMax) of the LOW to HIGH propagation time (in s) of a combinatorial, sequential or interface function of an IC in a temperature range between specified temperatures (T_1 and T_2).

AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

IEC 60748-2 (1997)

AAE238-005 02	NR3..3.3ES2	T07
level max	real measure s	

output rise time   t_r
LOW to HIGH transition time t_r
switching time t_{TLH}

The maximum guaranteed LOW-level to HIGH-level transition time (in s) at the output of a digital function of an IC at specified output capacitance, supply voltage and in a temperature range between specified temperatures (T_1 and T_2).

AAE102-005 = supply voltage
AAE256-005 = load capacitance
AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

IEC 60748-2 (1997)

REMARKS:
The voltage level specified for the beginning of the slope is 10 %, that for the end of the slope is 90 %.

AAE239-005 03	NR3 S..3.3ES2	E01
level max	real measure A	

HIGH off-state output current I_OZH
3-state output leakage current I_{OZH}
off-state current I_{OZ}

The maximum guaranteed HIGH off-state dc output current (in A), of a 3-state digital function of an IC, at the maximum supply voltage and in a temperature range between specified temperatures (T_1 and T_2).

AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

IEC 60748-2 (1997)

REMARKS:
Applies to digital ICs with 3-state outputs.
It is assumed that the required external HIGH-state output voltage (V_{OH} or V_{CC} or V_{DD}) is applied, as well as the appropriate input condition (V_{IL} and/or V_{IH}).

AAE240-005 03	NR3 S..3.3ES2	E01
level max	real measure A	

LOW off-state output current I_OZL
3-state output leakage current I_{OZL}
off-state current I_{OZ}

The maximum guaranteed LOW off-state dc output current (in A), of a 3-state digital function of an IC, at maximum supply voltage and in a temperature range between specified temperatures (T_1 and T_2).

AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

IEC 60748-2 (1997)

REMARKS:
Applies to digital ICs with 3-state outputs.
It is assumed that the required external LOW-state output voltage (V_{OL} or V_{SS} or GND) is applied, as well as the appropriate input condition (V_{IL} and/or V_{IH}).

AAE254-005 02	NR3 S..3.3ES2	E01
level min	real measure A	

LOW-state output current   I_OL
LOW-level output current I_{OL}
output sink current

The minimum guaranteed LOW-state dc output current (in A) of a digital function of an IC, at specified supply voltage, output voltage and in a temperature range between specified temperatures (T_1 and T_2).

AAE102-005 = supply voltage
AAE228-005 = output voltage
AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

IEC 60748-2 (1997)

REMARKS:
Refers to the minimum current sinking capacity of the output of a digital IC, at which a specified output voltage (V_{OL}) is still maintained, while the inputs are either at zero (GND/V_{SS}) or at supply voltage level (V_{CC}/V_{DD}).

AAE255-005	02	NR3 S..3.3ES2	E01
	level min	real measure A	

HIGH-state output current   I_OH
HIGH-level output current I_{OH}
output source current

The minimum guaranteed HIGH-state dc output current (in A) of a digital function of an IC, at specified supply voltage, output voltage and in a temperature range between specified temperatures (T_1 and T_2).

AAE102-005 = supply voltage
AAE228-005 = output voltage
AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

IEC 60748-2 (1997)

REMARKS:
Refers to the minimum current sourcing capacity of the output of a digital IC, at which a specified output voltage (V_{OH}) is still maintained, while the inputs are either at zero (GND/V_{SS}) or at supply voltage level (V_{CC}/V_{DD}).

AAE256-005	01	NR3..3.3ES2	E09
	simple	real measure F	

load capacitance   @C_L
                              @C_L

Load capacitance (in F) at the output of an electric, electronic or electromechanical component, as a variable.

AAE257-005	01	NR2..3.3	H07
	level max	real measure W	

power dissipation   P
                              P

The maximum power (in W) of an electric-electronic or electromechanical component which may be dissipated continuously at specified temperature of a temperature type.

AAE683-005 = temperature type
AAE685-005 = temperature

AAE259-005	01	M..8	A58
	simple	non-quantitative code	

shape/size code BSI   shape/size

BSI code of the shape/size of an electric-electronic or electromechanical component for placement on printed circuits.

BR = bead package, two radial leads
CS = cylindrical package, single-ended, two leads
CT = cylindrical package, stud mounting
DA = disc package, two axial leads
DD = disc package, double tag
DL = dual in-line package, multi-lead
DP = disc package, printed circuit board mounting
DR = disc package, two radial leads
DS = disc package, stud mounting
DT = disc package, potting tag
FP = flat pack, multi-lead
PA = potentiometer, panel mounting
PB = potentiometer, panel mounting
PC = potentiometer, panel mounting
PD = potentiometer, panel mounting
PE = potentiometer, panel mounting
PF = potentiometer, panel mounting
PP = rectangular package, three leads, horizontal adjuster
PQ = rectangular package, three leads, vertical adjuster
RA = rectangular package, two axial leads
RC = rectangular package, metallised ends (SMD)
RR = rectangular package, two radial leads
RS = rectangular package, two strip leads
TA = tubular package, two axial leads
TR = tubular package, two radial leads
XA = oval package, two mounting holes, two leads
XB = stud-mounted package, one fixed tag
XC = cylindrical metal-can package, multi-lead
XD = top-hat package, axial leads
XE = stud-mounted package, two fixed tags
XF = stud-mounted package, one flexible lead with tag
XG = stud-mounted package, two flexible leads with tag
XH = stud-mounted package, one flexible lead
XK = flat package, three in-line leads
XL = near-cylindrical package, three leads on circle
XM = flat package, mounting hole, two/three leads
XN = flat package, three pre-formed leads
XP = moulded case, three mounting feet
XR = flat package with flange, mounting hole, 2/3 leads

BS 6943 (1988)

REMARKS:
The complete code consists of three parts:
a)   a two-letter drawing code, followed by

b) a numeric code giving a salient property, which may be either a major dimension or the number of leads, followed by

c) a hyphen and a serial number to distinguish components with the same drawing and numeric codes.

For reference drawings see source document.

AAE260-005	02	NR1 S..4	H02
	simple	integer measure	
		Cel	

case temperature   @T_case
surface temperature   @T$_{case}$

The case temperature (in Cel) of a component, as a variable.

IEC 60068-1 (1988)

| AAE262-005 | 01 | M..8 | A55 |
| | simple | non-quantitative code | |

encapsulation technology   encapsulation

Code indicating the encapsulation technology which has been applied in an electric, electronic or electromechanical component.

LACQ   = lacquered
MOULD   = moulded
POTTED   = potted
SEAL   = sealed coat
SLEEVE   = sleeved
WRAP   = wrapped end-filled

| AAE263-005 | 01 | M..8 | A56 |
| | simple | non-quantitative code | |

polarity type   polarity

Code of the type of polarity of a fixed electrolytic capacitor indicating whether it is designed for unidirectional or alternating/reversible voltages.

BIPOL   = bipolar: for ac voltages
            and/or reversible dc voltages
POLAR   = polar: for unidirectional voltages

| AAE266-005 | 03 | M..3 | A57 |
| | simple | non-quantitative code | |

dielectric subclass 1   diel subclass1

IEC standard code of the subclass of a fixed class1 ceramic capacitor, as determined by the temperature coefficient and its tolerance.

1A   = 1A
1B   = 1B
1C   = 1C
1D   = 1D
1F   = 1F

IEC 60384-8 (1988)

REMARKS:
First (numeric) character is always 1 (see AAE038-005)
Second (alphabetic) character indicates tolerance on temperature coefficient of capacitance:

sub-class code	A	B	F	C	D
temp. coeff. (10$^{-6/K}$)		Tolerance on temperature Coefficient (10$^{-6/K}$)			
+100 to -220	+/-15	+/- 30			
-330 to -470	+/-30	+/- 60			
-750 to -1000	+/-60	+/-120	+/- 250		
-1500			+/- 250		
-2200 to -3300			+/- 500		
-4700			+/-1000		
-5600			+/-1000		
+140 >TC> -1000				C	
+250 >TC> -1750					D

For the meaning of the values, see table II of IEC 60384-8 (1988).

AAE267-005	01	NR1..4	H02
	level max	integer measure Cel	

rated temperature   **T_rat**
T_{rat}

The maximum temperature (in Cel) at which a defined set of rated values apply simultaneously for an electric, electronic or electromechanical component.

NOTE
Generally referring to currents, voltages, and/or power.

AAE268-001	01	NR3 S..3.3ES2	E09
	level nom	real measure %	

capacitance upper tolerance   **C_ut**
C_{ut}

The upper tolerance (in F) of the rated capacitance of a fixed capacitor.

AAE269-001	01	NR3 S..3.3ES2	E09
	level nom	real measure %	

capacitance lower tolerance   **C_lt**
C_{lt}

The lower tolerance (in F) of the rated capacitance of a fixed capacitor.

AAE271-005	01	NR1..4	H02
	simple	integer measure Cel	

junction temperature   **@T_j**
virtual junction temperature $@T_j$

The junction temperature (in Cel) of a transistor, diode, trigger device, optoelectronic device or IC as a variable.

IEC 60747-1, amendment 3 (1996)

AAE272-005	01	NR1..4	H02
	simple	integer measure Cel	

mounting base temperature   **@T_mb**
$@T_{mb}$

The temperature (in Cel) of the mounting base of a transistor, diode, trigger device, optoelectronic device or IC, as a variable.

JESD 77B (2000)

AAE273-007	01	X..8	A56
	simple	non-quantitative code	

diode application   **diode appl**

Code of the type of application of a diode.

BOD = breakover diode
REC = rectifier diode
SIGD = signal diode
STB = stabilizer diode
VARD = variable capacitance diode

AAE274-005	02	NR3..3.3ES2	E01
	simple	real measure A	

forward current   **@I_F**
$@I_F$

The direct current (in A) flowing through a diode or diode part of an electronic device, in the forward direction, as a variable.

IEC 60747-2 (1983)

AAE275-005	01	NR3..3.3ES2	E01
	simple	real measure A/s	

rate change of forward current   **@dI_F/dt**
$@dI_F/dt$

The rate of change of forward current (in A/s) of a diode, as a variable.

AAE276-005 03   **NR3..3.3ES2**   **E01**
level max   real measure
A

reverse current   **I_R**
continuous direct reverse current I_R

The maximum continuous reverse direct current (in A) of a diode, optoelectronic device, thyristor or triac at specified reverse voltage and temperature of a temperature type.

AAE335-005 = reverse voltage
AAE683-005 = temperature type
AAE685-005 = temperature

IEC 60747-2 (2000)

AAE277-005 02   **NR2..3.3**   **E06**
level max   real measure
V

reverse voltage   **V_R**
stand-off voltage V_R

The maximum voltage (in V) which may be applied continuously to a diode or diode part of an optoelectronic device in the reverse direction at specified temperature of a temperature type.

AAE683-005 = temperature type
AAE685-005 = temperature

IEC 60747-2 (2000)

AAE279-005 02   **NR2..3.3**   **E06**
level minTypMax   real measure
V

forward voltage   **V_F**
on-state voltage V_F

The value as specified by level (minTypMax) of the forward voltage (in V) across a diode or diode part of an optoelectronic device, at specified forward current and temperature of a temperature type.

AAE274-005 = forward current
AAE683-005 = temperature type
AAE685-005 = temperature

IEC 60747-2 (2000)

AAE281-005 02   **NR3..3.3ES2**   **T07**
level max   real measure
s

reverse recovery time   **t_rr**
t_{rr}

The maximum reverse recovery time (in s) of a diode, when switched from a specified forward current to a specified reverse voltage at a specified change of forward current and junction temperature.

AAE271-005 = junction temperature
AAE274-005 = forward current
AAE275-005 = rate change of forward current
AAE335-005 = reverse voltage

IEC 60747-2 (2000)

AAE282-005 01   **NR3..3.3ES2**   **E01**
level max   real measure
A

output current EHT supply   **I_O(EHT)**
$I_{O(EHT)}$

The maximum output current (in A) at the EHT supply output of a voltage multiplier.

AAE283-005 01   **NR3..3.3ES2**   **E01**
level max   real measure
A

output current focus supply   **I_Ofoc**
I_{Ofoc}

The maximum output current (in A) at the focus supply output of a voltage multiplier.

AAE284-005 03   **NR2..3.3**   **E01**
level max   real measure
A

peak inrush current limit   **I_IIMlim**
I_{IIMlim}

The maximum limiting peak inrush current (in A) of a bridge rectifier.

AAE285-005 03   **NR2..3.3**   **E01**
level max   real measure
A

non-rep peak input current limit   **I_ISMlim**
I_{ISMlim}

The maximum limiting non-repetitive peak input current (in A) flowing through a bridge rectifier.

AAE286-005   01   NR2..3.3   E01
level max   real measure
A

average output current   I_O(AV)
$I_{O(AV)}$

The maximum average output current (in A) of a bridge rectifier at specified maximum mounting base temperature.

AAE287-005 01   NR2..3.3   E01
level max   real measure
A

repetitive peak output current I_ORM
I_{ORM}

The maximum repetitive peak output current (in A) of a bridge rectifier.

AAE288-005 02   NR3..3.3ES2   E06
level max   real measure
V

input voltage peak-to-peak   V_in(p-p)
$V_{in(p-p)}$

The maximum peak-to-peak input voltage (in V) of a voltage multiplier.

AAE289-005 02   NR3..3.3ES2   E06
level max   real measure
V

output voltage EHT supply   V_O(EHT)
$V_{O(EHT)}$

The maximum output voltage (in V) at the EHT output of a voltage multiplier.

AAE290-005 02   NR1..4   E06
level max   integer measure
V

repetitive peak input voltage   V_IRM
V_{IRM}

The maximum repetitive peak input voltage (in V) of a bridge rectifier or voltage multiplier.

AAE291-005 01   NR1..4   E06
level max   integer measure
V

rms input voltage   V_I(RMS)
$V_{I(RMS)}$

The maximum rms input voltage (in V) of a bridge rectifier.

AAE292-005   01   NR1..4   E06
level max   integer measure
V

crest working input voltage   V_IWM
V_{IWM}

The maximum peak input voltage (in V) of a bridge rectifier.

NOTE
Excluding all repetitive and non-repetitive transient voltages.

AAE293-005 03   NR3..3.3ES2   E01
level max   real measure
A

repetitive peak forward current   I_FRM
I_{FRM}

The maximum repetitive peak forward current (in A) flowing through a diode or diac at specified forward voltage.

NOTE
Including all repetitive transient currents.

AAE499-005 = forward voltage

IEC 60747-2 (2000)

AAE294-005 01   NR1..4   E01
level max   integer measure
A

non-repetitive peak forward current   I_FSM
I_{FSM}

The maximum non-repetitive peak forward current (in A) of a diode at specified junction temperature and specified duration prior to the application of the pulse.

AAE028-005 = duration
AAE271-005 = junction temperature

IEC 60747-2 (2000)

REMARKS:
Half-sinewave duration is 10 ms.

AAE296-005 02   NR1..4   E01
level max   integer measure
A

working peak forward current I_FWM
I_{FWM}

The maximum working peak forward current (in A) of an efficiency diode.

AAE297-005 02 NR3..3.3ES2 E01
level max   real measure
A

repetitive peak reverse current   I_RRM
repetitive peak recovery current I_{RRM}

The maximum repetitive peak reverse current (in A) of a rectifier diode when switched from a specified forward current to a specified reverse voltage at a specified rate of change of forward current and junction temperature.

AAE271-005 = junction temperature
AAE274-005 = forward current
AAE275-005 = rate change of forward current
AAE335-005 = reverse voltage

AAE298-005 02 NR2..3.3 E01
level max   real measure
A

non-rep varistor peak current I_nrp
non-repetitive surge current I_{nrp}
non-repetitive transient current

The maximum limiting non-repetitive value of a pulse current (in A) through a varistor, with specified virtual front time and virtual time to half-value.

AAE125-005 = current (pulse)
AAE332-005 = virtual front time
AAE333-005 = virtual time to half-value

AAE299-005 01 NR1..4 E06
level max   integer measure
V

crest working reverse voltage V_RWM
working reverse voltage V_{RWM}

The maximum peak reverse voltage (in V), across a rectifier diode.

NOTE
Excluding all repetitive and non-repetitive transient voltages.

IEC 60747-2 (2000)

AAE300-005 02 NR1..4 E06
level max   integer measure
V

repetitive peak reverse voltage   V_RRM
V_{RRM}

The maximum repetitive peak reverse voltage (in V) across a diode or reverse blocking thyristor.

IEC 60747-2 (2000)

AAE301-005 03 NR1..4 E06
level max   integer measure
V

non-repetitive peak reverse voltage   V_RSM
V_{RSM}

The maximum non-repetitive peak reverse voltage (in V) of a rectifier diode or signal diode.

IEC 60747-2 (2000)

REMARKS:
NOTE
The repetitive voltage is usually a function of the circuit and increases the power dissipation of the device. A non-repetitive transient voltage is usually due to an external cause and it is assumed that its effect has completely disappeared before the next transient arrives.

AAE302-005 02 NR2..3.3 H07
level max   real measure
W

repetitive peak reverse power P_RRM
P_{RRM}

The maximum amplitude (in W) of a repetitive square power pulse dissipated in an avalanche rectifier diode or signal diode, operating in the breakdown region, at specified duration, frequency and junction temperature.

NOTE
For some types of avalanche diodes, V_{RRM} is specified instead of P_{RRM}.

AAE028-005 = duration
AAE029-005 = frequency
AAE271-005 = junction temperature

AAE303-006 01 NR2..3.3 H07
level max   real measure
W

non-rep peak reverse power diss   P_RSM
P_{RSM}
P_{ZSM}

The maximum amplitude (in W) of a single non-repetitive square pulse dissipated in a rectifier or signal diode, at specified pulse duration and junction temperature prior to the application of the pulse.

AAE028-005 = duration
AAE271-005 = junction temperature

| AAE304-005 | 03 | NR3..3.3ES2 | H20 |
| | level max | real measure J | |

non-rep peak rev avalanche energy   E_RSM
E_{RSM}

The maximum non-repetitive peak reverse avalanche mode pulse energy (in J) of a rectifier diode, at specified reverse current and maximum junction temperature prior to the application of the pulse and with inductive load switched off.

AAE994-005 = reverse current

NOTE
E_{RSM} can also be calculated from P_{RSM}.

| AAE305-005 | 01 | NR2 S..3.3 | H06 |
| | level max | real measure J | |

Joule-integral   (I2)*t**
I squared t for fusing $I^2 t$

The maximum capability of a thyristor, triac or diode to absorb energy (in J) at specified time duration.

NOTE
When considered from the point of view of the circuit protected by a fuse, the value of the Joule-integral over the operating time of the fuse is referred to as specific energy, i.e. the energy released as heat in 1 Ω of circuit resistance.

AAE028-005 = duration

IEC 60050-441, amendment 1 (2000)

REMARKS:
The value is given for the selection of fuses.

| AAE306-005 | 03 | NR3..3.3ES2 | T07 |
| | level max | real measure s | |

total reverse recovery time   t_tot
t_{tot}

The maximum total reverse recovery time (in s) of an efficiency diode when switched from a specified forward current and with a specified rate-change of forward current and junction temperature to a reverse voltage of about 0,7 V (being the saturation voltage of the transistor in parallel) and a diode reverse current equal to zero.

NOTE
The moment the reverse current equals zero is measured by shifting the flyback pulse, used in the application circuit, and detecting the moment the front of the flyback pulse is entering the reverse current of the efficiency diode.

AAE271-005 = junction temperature
AAE274-005 = forward current
AAE275-005 = rate change of forward current
AAE994-005 = reverse current

| AAE310-005 | 02 | NR2..3.3 | E44 |
| | level minTypMax | real measure Ω | |

diode forward resistance   r_D
diode series resistance r_D

The value as specified by level (minTypMax) of the series resistance (in ohms) of a signal diode or variable capacitance diode at specified frequency and forward current.

AAE029-005 = frequency
AAE274-005 = forward current

| AAE311-005 | 02 | NR2..3.3 | E44 |
| | level minTypMax | real measure Ω | |

diode reverse resistance   r_s
diode series resistance r_s

The value as specified by the level (minTypMax) of the series resistance (in ohms) of a tuning variable capacitance diode at specified frequency and adjusted diode capacitance.

NOTE
The specified diode capacitance has to be adjusted with the reverse voltage.

AAE029-005 = frequency
AAE497-005 = diode capacitance

AAE312-005   01   X..3   A56
simple   non-quantitative code

diode function   diode function

Code of the function of a stabiliser diode.

CUR = current regulator diode
REF = voltage reference diode
REG = voltage regulator diode
STA = stabistor
SUP = transient suppressor diode

AAE313-005 01   NR2..3.3   E06
level max   real measure
V

clamping voltage   V_(CL)R
$V_{(CL)R}$

The maximum clamping voltage (in V) of a transient suppressor diode at specified non-repetitive peak reverse current, virtual front time and virtual time to half-value.

AAE315-005 = non-rep peak reverse current
AAE332-005 = virtual front time
AAE333-005 = virtual time to half-value

REMARKS:

8/20 impulse:	8 us virtual front time
	20 us virtual time to half-value
4/10 impulse:	4 us virtual front time
	10 us virtual time to half-value

AAE315-005 02   NR2..3.3   E01
simple   real measure
A

non-rep peak reverse current @I_RSM
$@I_{RSM}$

The non-repetitive peak reverse current (in A) of a stabiliser diode, as a variable.

IEC 60060-1 (1989)

AAE316-005 01   NR3..3.3ES2   E01
level max   real measure
A

working current   I_Z
I_Z

The maximum direct reverse current (in A) which may be applied continuously to a voltage reference diode, voltage regulator diode or transient suppressor diode.

AAE317-005 01   NR3..3.3ES2   E01
level max   real measure
A

peak working current   I_ZM
I_{ZM}

The maximum peak working current (in A) of a stabiliser diode.

AAE318-005 02   NR2..3.3   E01
level max   real measure
A

non-repetitive peak reverse current I_RSM
I_{RSM}

The maximum non-repetitive peak reverse current (in A) of a stabiliser diode at specified virtual front time and virtual time to half-value.

AAE332-005 = virtual front time
AAE333-005 = virtual time to half-value

IEC 60060-1 (1989)

REMARKS:

8/20 impulse:	8 us virtual front time
	20 us virtual time to half-value
4/10 impulse:	4 us virtual front time
	10 us virtual time to half-value
6/320 impulse:	6 us virtual front time
	320 us virtual time to half-value
10/1000 impulse:	10 us virtual front time
	1000 us virtual time to half-value

AAE319-005 01   NR1..4   E06
level max   integer measure
V

maximum clamping voltage   U_clam
max peak voltage at I_class U_{clam}
voltage at class current (IEC)

The maximum clamping voltage (in V) across a varistor when, at reference conditions, a specified pulse current, with specified virtual front time and virtual time to half-value, is passed through the varistor.

AAE125-005 = current (pulse)
AAE332-005 = virtual front time
AAE333-005 = virtual time to half-value
AAE995-005 = reference conditions

IEC 61051-1 (1991)

AAE322-005	01	NR2 S..3.3	E06
	level max	real measure %/K	

temperature coefficient S_Z   S_Z
S_Z

The maximum temperature coefficient (in %/K) of a voltage reference diode or voltage stabiliser diode, at specified working current.

AAE500-005 = working current

AAE323-005	01	NR2..3.3	E33
	level max	real measure Ω	

differential resistance   r_dif
r_{dif}

The maximum differential resistance (in ohms), being the quotient of the delta V_F and delta I_F, of a voltage reference diode at specified working current.

AAE500-005 = working current

AAE324-005	01	NR2..3.3	E06
	level miNoMax	real measure V	

working voltage   V_Z
reference voltage V_Z
regulation voltage V_{ref}

The value as specified by level (miNoMax) of the working voltage (in V) of a voltage regulator diode or voltage reference diode at specified working current.

AAE500-005 = working current

AAE326-005	01	NR2..3.3	H02
	simple	real measure Cel	

tie point temperature   @T_tp
$@T_{tp}$

The temperature (in Cel) of the tie point of a voltage regulator diode, as a variable.

AAE327-006	01	NR1..4	H07
	level max	integer measure W	

non-rep peak reverse power diss   P_ZSM
P_{ZSM}

The maximum non-repetitive peak reverse power dissipation (in W) of a stabilising diode, at specified time duration and junction temperature prior to the application of the square shaped pulse.

AAE028-005 = duration
AAE271-005 = junction temperature

AAE328-005	02	NR2..3.3	E33
	level max	real measure Ω	

differential resistance   r_dif
r_{dif}

The maximum quotient of the delta V_F over delta I_F (in ohms), of a voltage regulator diode or stabistor at specified forward current and a frequency of 1000 Hz.

AAE274-005 = forward current

AAE329-005	01	NR3 S..3.3ES2	E06
	level max	real measure V/K	

temperature coefficient S_F   S_F
S_F

The maximum temperature coefficient (in V/K) of a stabistor at specified forward current and forward voltage.

AAE274-005 = forward current
AAE499-005 = forward voltage

AAE331-005	01	M..17	A58
	simple	string	

diode package   diode package
diode envelope

Code of the envelope of a diode or trigger device.

AAE332-005 02   **NR3..3.3ES2**   **T07**
             simple   real measure
                         s

virtual front time   **@t_1**
                            @t$_1$

The virtual front time t$_1$ (in s) of an impulse applied
to a stabiliser diode, as a variable.

NOTE
If oscillations are present on the front, the 10 % and
90 % values should be derived from a mean curve
drawn through these oscillations in an analogous
manner to that used for oscillatory lightning
impulses.

IEC 60060-1 (1989)

REMARKS:
The difference between front times measured
according to this definition and to that given in IEC
60060-1 (1989) for lightning impulses is generally
less than 10 %.

AAE333-005 02   **NR3..3.3ES2**   **T07**
             simple   real measure
                         s

virtual time to half-value   **@t_2**
                                    @t$_2$

The virtual time to half-value t$_2$ (in s) of an impulse
current applied to a stabiliser diode, as a variable.

IEC 60060-1 (1989)

AAE334-005 01   **NR1..4**   **E06**
             level minMax   integer measure
                            V

varistor voltage at 1 mA U_var(1mA)
                            U$_{var(1mA)}$

The value as specified by level (minMax) of the dc
voltage (in V) across a varistor when a current of 1
mA dc is passed through it.

AAE335-005 01   **NR2..3.3**   **E06**
             simple   real measure
                         V

reverse voltage   **@V_R**
stand-off voltage   @V$_R$

The direct voltage (in V) applied to a diode or
optoelectronic device in reverse direction, as a
variable.

IEC 60747-2 (2000)

AAE336-005 01   **NR1..4**   **H02**
             level max   integer measure
                        Cel

mounting base temperature   T_mb
                               T$_{mb}$

The maximum temperature (in Cel) of the mounting
base of a transistor, diode, trigger device,
optoelectronic device or IC.

JESD 77B (2000)

AAE337-005 01   **NR1..4**   **H02**
             level max   integer measure
                        Cel

junction temperature   T_j
virtual junction temperature   T$_j$

The maximum junction temperature (in Cel) of a
transistor, diode, trigger device, optoelectronic
device or IC.

IEC 60747-1 (1983)

AAE338-005 01   **NR1..4**   **E06**
             level max   integer measure
                        V

maximum noise voltage U_n
voltage handling capacity U$_n$

The maximum simulated programme noise voltage of
a loudspeaker (in V), of specified duration and at
specified filter and mounting of loudspeaker.

NOTE
After the maximum voltage has been applied, no
thermal or mechanical damage fault may result.

AAE028-005 = duration
AAE342-005 = mounting of loudspeaker
AAE343-005 = filter

AAE339-005 02   **NR3..3.3ES2**   **F03**
             level nom   real measure
                        Hz

upper rated frequency   f_upr
                           f$_{upr}$

The nominal upper frequency (in Hz) of a
loudspeaker.

AAE340-005   01   NR3..3.3ES2   F03
level min   real measure
Hz

effective frequency f_e2 f_e2
f_{e2}

The minimum value of the upper effective frequency (in Hz) of a loudspeaker, microphone or antenna.

REMARKS:
For a loudspeaker, the -10 dB frequency.

AAE341-005 01   NR3..3.3ES2   F03
level max   real measure
Hz

effective frequency f_e1 f_e1
f_{e1}

The maximum value of the lower effective frequency (in Hz) of a loudspeaker, microphone or antenna.

REMARKS:
For a loudspeaker, the -10 dB frequency.

AAE342-005 01   M..3   A51
simple   non-quantitative code

mounting of loudspeaker   @lsp mounting

Code of the mounting arrangement of a loudspeaker.

ENC = enclosure
HSF = half space free field
UNM = unmounted
BFL = baffle

NOTE
The performance of a loudspeaker system is determined by the properties of the loudspeaker unit itself and its acoustic loading. The acoustic loading depends upon the mounting arrangements as there are: a) a standard baffle or specified enclosure, b) in free air without a baffle or enclosure, c) in half space free-field, flush with the   reflecting plane.

AAE343-005 01   M..3   A51
simple   non-quantitative code

filter   @filter
network

Code of the filter used with a loudspeaker.

L   = L network
S   = series network
W   = without filter

REMARKS:
The L network is a capacitor in series with a coil and loudspeaker in parallel.

AAE345-005 01   M..3   A58
simple   non-quantitative code

female entry   female entry
socket-inlet
bottom entry

Code of the entry of a connector.

ONE   = one-way
TWO   = two-way (bottom entry)

AAE347-005 01   M..17   A59
simple   string

CECC specification   CECC spec

CECC code of the specification in which an electric/ electronic or electromechanical component is released under the CECC quality assessment system.

CECC 00100

REMARKS:
CECC   = CENELEC Electronic Components Committee
CENELEC = European Committee for Electrotechnical Standardisation
Quality assessment:
The continuous surveillance of the manufacturer of a product to ensure that it conforms to the requirements of the specification to which it was made.
GEN = general
SEC = sectional
DET = detail

AAE348-005 01	**M..3**	**A58**
simple	non-quantitative code

pinning arrangement	**pin arrangement**

Code of the pinning arrangement of a connector.

CIR = circular
CON = concentric
SQU = square
STA = staggered

AAE349-006 01	**M..8**	**A56**
simple	non-quantitative code

connector type	**connector**

Code of the type of a connector, according to its shape, application, mating part or the type of component to which it will be permanently attached.

CIRC = circular connector
IC   = connector for IC cards
JACK = plug or jack
MOD = modular connector
PCB = connector for PCB
RECT = rectangular connector
RF   = rf connector
SOCK = socket
TERM = terminal

AAE350-005 01	**M..8**	**A57**
simple	non-quantitative code

contact finish	**contact finish**

Code of the finish material of the contacts of a connector, relay or switch.

Ag   = silver
Au   = gold
CuZn   = brass
Ni   = nickel
PCuSn = phosphor bronze
Pd   = palladium
Sn   = tin
Zn   = zinc

AAE351-006 01	**M..8**	**A57**
simple	non-quantitative code

housing material	**housing mat**
shell material

Code of the material of the housing or shell of a connector or switch.

CER   = ceramic
DAP   = *diallylphthalate
MET   = metal
PA   = *polyamide
PC   = *polycarbonate (makrolon)
PLA   = plastic
PPOX   = *polyphenyleneoxide (noryl)
PTFE   = *polytetrafluorethylene (teflon)

AAE352-005 01	**M..8**	**A58**
simple	non-quantitative code

terminal-to-contact angle	**term cont angle**

Code of the angle between terminal and contact of a connector.

DEG   = 45 degree
RIGHT = 90 degree (right angle)
STRAI = 180 degree (straight)

AAE353-005 01	**M..3**	**A58**
simple	non-quantitative code

contact sex	**contact sex**
sex of contacts
sex of guides

IEC code of the type of the contact of a connector.

F   = female (socket) IEC169-1 (1987)
H   = hermaphroditic IEC169-1 (1987)
M   = male (pin) IEC169-1 (1987)

IEC 60807-1 (1991)

AAE354-005 01   **M..8**   **A58**
simple   non-quantitative code

polarisation   **polarization**

Code of the means by which polarisation of a connector is achieved.

CONTAC   = contact
JUMPER   = jumper
PIN   = pin
PLUG   = plug
SHELL   = shell

REMARKS:
Polarisation is a shape feature on connectors to prevent incorrect mating.

AAE355-005 01   **M..8**   **A57**
simple   non-quantitative code

contact body material   cont body mat

Code of the material of the body of the contacts of a connector, relay or switch.

BeCu   = beryllium copper
Cu   = copper
CuSn   = bronze
CuZn   = brass
Ni   = nickel
PCuSn   = phosphor bronze

AAE356-005 02   **M..3**   **A58**
simple   non-quantitative code

connector shape   **connector shape**

Code of the shape of the shell of a connector.

CIR   = circular (round)
D   = D-connector
REC   = rectangular

AAE357-005 02   **M..3**   **A59**
simple   non-quantitative code

performance class   **performance cls**

Code of the performance class of a connector.

1   = 1
1a   = 1a
2   = 2
3   = 3

REMARKS:
Performance class is the combination of mechanical endurance and climatic category.

performance class	mechanical endurance	climatic category min/max/days
1	500	55/125/56
1a	500	65/125/65
2	400	55/125/00
3	50	55/125/00

AAE358-005 01   **NR3..3.3ES2**   **E01**
level max   real measure
A

contact current max   **I_cont**
I_{cont}

The maximum continuous rms current (in A) per contact of a connector, at specified ambient temperature.

AAE014-005 = ambient temperature

AAE359-005 02   **NR1..4**   **Q56**
level nom   integer measure
1

number of contacts   **N_cont**
contact positions N_{cont}

The total number of contacts of a connector.

AAE360-005 02   **NR1..4**   **Q56**
level nom   integer measure
1

number of rows   **N_row**
N_{row}

The number of contact rows of a connector.

REMARKS:
The rows used to arrange the total number of contacts in a rectangle or trapezium form.

AAE361-005	02	NR1..4	Q59
	level min	integer measure	
		1	

mechanical endurance **N_endu**
insertions N_{endu}

The minimum number of engagements and separations that the connector can withstand without electrical load.

NOTE
After test the connector shall fulfil requirements stated in IEC 60169-1 (1987).

IEC 60169-1 (1987)

AAE362-005	02	NR3..3ES2	T03
	level min	real measure	
		m	

connector opening **d_con**
printed board thickness d_{con}
aperture

The minimum opening (in m) in an edge connector to receive the metal-clad base material of a printed board including conductive layer or layers but excluding additional plating.

IEC 60194 (1999)

AAE363-005	01	NR3..3ES2	T03
	level nom	real measure	
		m	

contact length under housing **l_cont**
l_{cont}

The nominal length (in m) of that part of a contact of a connector that is intended to make contact with the mating part.

IEC 60050 (581) (1978)

REMARKS:
Terminating end outside the connector housing.

| AAE364-005 | 02 | M..3 | A55 |
| | simple | non-quantitative code | |

gate type **gate type**

Code indicating the type of gate of a field-effect transistor.

DEP = *depletion
ENH = *enhancement
INS = insulated gate
JUN = junction gate

| AAE366-005 | 01 | M..3 | A57 |
| | simple | non-quantitative code | |

channel type **channel type**

Code indicating the material type of the channel(s) of a field-effect transistor.

N = N-channel
P = P-channel

AAE367-005	02	NR3 S..3.3ES2	E01
	simple	real measure	
		A	

drain current (dc) **@I_D**
@I_D

The direct current (in A) flowing through the drain of a field-effect transistor, as a variable.

AAE368-005	01	NR3 S..3.3ES2	E01
	level max	real measure	
		A	

drain current (dc) **I_D**
I_D

The maximum direct drain current (in A) of a field-effect transistor.

AAE370-005	01	NR3 S..3.3ES2	E01
	level minMax	real measure	
		A	

drain current (dc) **I_DSS**
I_{DSS}

The value as specified by level (minMax) of the direct drain current (in A) of a field-effect transistor at specified drain-source voltage and source short-circuited to the gate.

AAE376-005 = drain-source voltage

AAE371-005	01	NR3 S..3.3ES2	E01
	level max	real measure	
		A	

drain cut-off current **I_DSX**
I_{DSX}

The maximum guaranteed drain cut-off current (in A) of a field-effect transistor at specified drain-source voltage, gate-source voltage and source-substrate voltage.

AAE376-005 = drain-source voltage
AAE381-005 = gate-source voltage
AAE388-005 = source-substrate voltage

IEC 60747-8 (2000)

AAE372-005   01   NR3 S..3.3ES2   E01
level minTypMax   real measure
A

gate cut-off current   I_GSS
reverse gate current I_{GSS}

The value as specified by level (minTypMax) of the reverse gate current (in A) of a field-effect transistor with the drain short-circuited to the source and at specified gate-source voltage and temperature of a temperature type.

AAE381-005 = gate-source voltage
AAE683-005 = temperature type
AAE685-005 = temperature

AAE373-005   01   NR3 S..3.3ES2   E01
level max   real measure
A

source cut-off current   I_SDX
I_{SDX}

The maximum guaranteed source cut-off current (in A) of a field-effect transistor at specified drain-source voltage, drain-gate voltage and drain-substrate voltage.

AAE375-005 = drain-gate voltage
AAE376-005 = drain-source voltage
AAE378-005 = drain-substrate voltage

IEC 60747-8 (2000)

AAE374-005   01   NR1..4   E06
level min   integer measure
dB

common-mode rejection ratio CMRR
CMRR

The minimum guaranteed common mode rejection ratio (in dB) of a dual field-effect transistor at specified drain current, drain-gate voltage and frequency.

AAE029-005 = frequency
AAE367-005 = drain current (dc)
AAE375-005 = drain-gate voltage

$$CMMR = -20\log\left|\Delta\frac{g_{os}}{g_{fs}}\right| \text{ in dB}$$

AAE375-005   02   NR1..4   E06
simple   integer measure
V

drain-gate voltage   @V_DG
@V_{DG}

The direct voltage (in V) between the drain and gate of a field-effect transistor, as a variable.

AAE376-005   01   NR1 S..4   E06
simple   integer measure
V

drain-source voltage   @V_DS
@V_{DS}

The direct voltage (in V) between drain and source terminals of a field-effect transistor, as a variable.

AAE377-005   02   NR1 S..4   E06
level max   integer measure
V

drain-source voltage limit   V_DSlim
V_{DSlim}

The maximum limiting direct voltage (in V) between drain and source terminals of a field-effect transistor.

AAE378-005   02   NR1 S..4   E06
simple   integer measure
V

drain-substrate voltage @V_DB
@V_{DB}

The direct voltage (in V) between the substrate and drain of a field-effect transistor, as a variable.

AAE379-005   02   NR1 S..4   E06
level max   integer measure
V

drain-substrate voltage limit   V_DBlim
V_{DBlim}
V_{DUlim}

The maximum limiting direct voltage (in V) between drain and substrate of a field-effect transistor.

AAE380-005   01   NR3..3.3ES2   E06
level max   real measure
V

equivalent noise voltage   V_n
equivalent input noise voltage V_n

The maximum equivalent noise voltage (in V) of a field effect transistor at specified drain current, drain-source voltage and bandwidth.

AAE367-005 = drain current (dc)
AAE376-005 = drain-source voltage
AAE934-005 = bandwidth

IEC 60747-1 (1983)

AAE381-005   01   NR1 S..4   E06
            simple   integer measure
                        V

gate-source voltage   @V_GS
                            @V_{GS}

The direct voltage (in V) between gate and source terminals of a field-effect transistor, as a variable.

AAE383-005 01   NR3..3.3ES2   E06
            level max   real measure
                        V

gate-source voltage difference |$DV_GS|
                            |Δ V_{GS}|

The maximum absolute value (in V) of the difference in direct gate-source voltages of a dual field-effect transistor at specified drain current and drain-gate voltage.

AAE367-005 = drain current (dc)
AAE375-005 = drain-gate voltage

AAE384-005 02   NR1 S..4   E06
            level minTypMax integer measure
                        V

gate-source threshold voltage V_GSth
                    V_{GSth}
                    $V_{GS(T)}$
                    $V_{GS(TO)}$

The value as specified by level (minTypMax) of the direct threshold voltage (in V) between gate and source terminals of an enhancement field-effect transistor at specified drain current and drain-source voltage.

AAE367-005 = drain current (dc)
AAE376-005 = drain-source voltage

IEC 60747-8 (2000)

AAE386-005 01   NR1 S..4   E06
            level minTypMax integer measure
                        V

gate-source cut-off voltage   V_GSoff
                            V_{GSoff}
                            $V_{(P)GS}$

The value as specified by level (minTypMax) of the gate-source cut-off voltage (in V) of a depletion field-effect transistor at specified drain current, drain-source voltage and temperature of a temperature type.

AAE367-005 = drain current (dc)
AAE376-005 = drain-source voltage
AAE683-005 = temperature type
AAE685-005 = temperature

IEC 60747-8 (2000)

AAE387-005 02   NR1 S..4   E06
            level max   integer measure
                        V

source-substrate voltage limit V_SBlim
                            V_{SBlim}

The maximum limiting direct voltage (in V) between source and substrate of a field-effect transistor.

AAE388-005 01   NR1 S..4   E06
            simple   integer measure
                        V

source-substrate voltage   @V_SB
                            @V_{SB}

The direct voltage (in V) between the source and the substrate of a field-effect transistor, as a variable.

AAE389-005 02   NR3..3.3ES2   E06
            level max   real measure
                        V/K

thermal drift gate-source voltage
                    d($DV_GS)/dT
                    |d(Δ V_{GS})/dT|

The maximum absolute value (in V/K) of the thermal drift of the gate-source voltage difference of a dual field-effect transistor at specified drain-gate voltage, drain current and ambient temperature.

AAE014-005 = ambient temperature
AAE367-005 = drain current (dc)
AAE375-005 = drain-gate voltage

AAE390-005   01   NR3..3.3ES2   E09
                level minTypMax   real measure
                                     F

feedback capacitance   C_rs
transfer capacitance C_{rs}
                            C_{rss}

The value as specified by level (minTypMax) of the capacitance (in F) between the drain and the gate with the input short-circuited to ac, of a field-effect transistor at specified frequency, drain-source voltage and gate-source voltage.

AAE029-005 = frequency
AAE376-005 = drain-source voltage
AAE381-005 = gate-source voltage

IEC 60747-8 (2000)

AAE391-005 02   NR3..3.3ES2   E33
                level minTypMax   real measure
                                     Ω

drain-source on-state resistance   R_DSon
                            R_{DSon}

The value as specified by level (minTypMax) of the dc resistance (in ohms) between the drain and source terminals of a field-effect transistor with a specified gate-source voltage applied to bias the device to the on-state, a specified drain current and temperature of a temperature type.

AAE367-005 = drain current (dc)
AAE381-005 = gate-source voltage
AAE683-005 = temperature type
AAE685-005 = temperature

IEC 60747-8 (2000)

AAE393-005 02   NR3..3.3ES2   E33
                level max   real measure
                             Ω

drain-source on-state resistance   r_ds(on)
                            $r_{ds(on)}$

The maximum small-signal resistance (in ohms) between the drain and source terminals of a unipolar field effect transistor with a specified gate-source voltage applied to bias the device in the on-state, and at specified drain-source voltage, source-substrate voltage and frequency.

AAE029-005 = frequency
AAE376-005 = drain-source voltage
AAE381-005 = gate-source voltage
AAE388-005 = source-substrate voltage

IEC 60747-8 (2000)

AAE394-005   02   NR3..3.3ES2   E33
                level min   real measure
                             Ω

drain-source off-state resistance   R_DSoff
                            R_{DSoff}

The minimum dc resistance (in ohms) between drain and source terminals of a field-effect transistor with a specified gate-source voltage to bias the device in the off-state, and specified drain-source voltage and source-substrate voltage.

AAE376-005 = drain-source voltage
AAE381-005 = gate-source voltage
AAE388-005 = source-substrate voltage

IEC 60747-8 (2000)

AAE396-005 02   NR3..3.3ES2   E45
                level minTypMax   real measure
                                     S

transfer admittance |Y_fs|
                            $|Y_{fs|}$

The value as specified by level (minTypMax) of the modulus of the transfer admittance (in S) of a field effect transistor at specified frequency, drain current, gate-source voltage and drain-source voltage.

AAE029-005 = frequency
AAE367-005 = drain current (dc)
AAE376-005 = drain-source voltage
AAE381-005 = gate-source voltage

AAE400-005 01   NR1..4   H02
                simple   integer measure
                             Cel

heatsink temperature   @T_h
                            $@T_h$

The temperature (in Cel) of the heatsink of a transistor, diode, trigger device, optoelectronic device or IC, as a variable.

AAE401-005 01   X..3   A55
                simple   non-quantitative code

transistor technology   tra technology

Code of the technology to which a transistor belongs.

BIP   = bipolar transistor
FET   = field-effect transistor

AAE402-005 02   **NR3..3.3ES2**   **E01**
        level minTypMax   real measure
        1

dc current gain   **h_FE**
                        h_{FE}

The value as specified by level (minTypMax) of the static ratio of the collector current to the base current of a bipolar transistor in common emitter configuration at specified collector current, collector-emitter voltage and junction temperature.

AAE271-005 = junction temperature
AAE406-005 = collector current (dc)
AAE412-005 = collector-emitter voltage

IEC 60748

AAE405-005 02   **NR3..3.3ES2**   **E01**
        level max   real measure
                  A

collector current (dc) max   **I_C**
                        I_C

The maximum direct collector current (in A) of a bipolar transistor or optoelectronic device.

IEC 60748

AAE406-005 01   **NR3 S..3.3ES2**   **E01**
        simple   real measure
                  A

collector current (dc)   **@I_C**
                        $@I_C$

The direct collector current (in A) of a bipolar transistor or transistor part of an electronic device, as a variable.

IEC 60748

AAE407-005 01   **NR3..3.3ES2**   **E01**
        level max   real measure
                  A

collector current peak value   **I_CM**
                        I_{CM}

The maximum peak value of the collector current (in A) of a bipolar transistor during a specified duration.

AAE028-005 = duration

AAE408-005 01   **NR3 S..3.3ES2**   **E01**
        simple   real measure
                  A

emitter current (dc)   **@I_E**
                        $@I_E$

The direct emitter current (in A) of a bipolar transistor, as a variable.

IEC 60748

AAE409-005 01   **NR3 S..3.3ES2**   **E01**
        simple   real measure
                  A

base current (dc)   **@I_B**
                        $@I_B$

The direct base current (in A) of a bipolar transistor, as a variable.

AAE410-005 03   **NR1..4**   **E01**
        level minTypMax   integer measure
        1

small-signal current gain   **h_fe**
                        h_{fe}

The value as specified by level (minTypMax) of the dynamic ratio of the collector current to the base current of a bipolar transistor in common-emitter configuration at specified collector current, collector-emitter voltage, junction temperature and frequency.

AAE029-005 = frequency
AAE271-005 = junction temperature
AAE406-005 = collector current (dc)
AAE412-005 = collector-emitter voltage

IEC 60748

AAE412-005 01   **NR2 S..3.3**   **E06**
        simple   real measure
                  V

collector-emitter voltage   **@V_CE**
                        $@V_{CE}$

The direct voltage (in V) between the collector and emitter terminals of a bipolar transistor, as a variable.

IEC 60748

AAE413-005	02	NR2 S..3.3	E06
	level max	real measure	
		V	

collector-emitter voltage V_CE   V_CER
$$V_{CER}$$

The maximum direct voltage (in V) between collector and emitter terminals of a bipolar transistor at specified resistance between base and emitter terminals.

AAE906-005 = base-emitter resistance

IEC 60748

AAE414-005	02	NR3 S..3.3ES2	E06
	level max	real measure	
		V	

collector-emitter voltage V_CE   V_CEO
$$V_{CEO}$$

The maximum voltage (in V) between collector and emitter terminals of a bipolar transistor at open base terminal.

IEC 60748

AAE415-005	01	NR2 S..3.3	E06
	level max	real measure	
		V	

collector-emitter peak voltage V_CESM
$$V_{CESM}$$

The maximum peak collector-emitter voltage (in V) of a bipolar transistor when the base terminal is short-circuited to the emitter terminal.

IEC 60748

AAE416-005	01	NR2 S..3.3	E06
	level minTypMax	real measure	
		V	

collector-emitter sat voltage   V_CEsat
$$V_{CEsat}$$

The value as specified by level (minTypMax) of the collector-emitter saturation voltage (in V) of a bipolar transistor at specified collector current, base current and junction temperature.

NOTE
This is the voltage between collector and emitter terminals when both the base-emitter and base-collector junctions are forward biased.

AAE271-005 = junction temperature
AAE406-005 = collector current (dc)
AAE409-005 = base current (dc)

IEC 60748

AAE417-005	01	NR2 S..3.3	E06
	level max	real measure	
		V	

collector-base voltage V_CBO V_CBO
$$V_{CBO}$$

The maximum voltage (in V) between collector and base terminals of a bipolar transistor at open emitter terminal.

IEC 60748

AAE418-005	02	NR3..3.3ES2	E06
	level max	real measure	
		V	

difference base-emitter voltage |V_1BE-V_2BE|
$$|V_{1BE-V2BE|}$$

The absolute value of the maximum difference (in V) of the base-emitter voltages of a dual bipolar transistor at specified sum of emitter currents and equal collector-base voltage and at equal collector currents.

AAE408-005 = emitter current (dc)
AAE419-005 = collector-base voltage

AAE419-005	01	NR2 S..3.3	E06
	simple	real measure	
		V	

collector-base voltage   **@V_CB**
                               @V_{CB}

The direct voltage (in V) between the collector and base terminals of a bipolar transistor, as a variable.

JESD 77B (2000)

AAE420-005	01	NR3..3.3ES2	E09
	level minMax	real measure	
		F	

collector capacitance   **C_c**
                              C_c

The value as specified by level (minMax) of the capacitance (in F) between collector and emitter terminals of a bipolar transistor at specified emitter current, collector-base voltage and frequency.

AAE029-005 = frequency
AAE408-005 = emitter current (dc)
AAE419-005 = collector-base voltage

AAE421-005	01	NR3..3.3ES2	E09
	level minTypMax	real measure	
		F	

feedback capacitance   **C_re**
transfer capacitance C_{re}

The value as specified by level (minTypMax) of the capacitance (in F) measured between collector and base terminals of a bipolar transistor in common-emitter configuration, at specified collector current, collector-emitter voltage, and frequency.

AAE029-005 = frequency
AAE406-005 = collector current (dc)
AAE412-005 = collector-emitter voltage

JESD 77B (2000)

AAE422-005	02	NR2..3.3	E49
	level nom	real measure	
		W	

output power   **P_L**
load power P_L

The nominal rf output power (in W) of a bipolar transistor at specified collector-emitter voltage, frequency and heatsink temperature.

AAE029-005 = frequency
AAE400-005 = heatsink temperature
AAE412-005 = collector-emitter voltage

IEC 60050-713 (1998)

AAE424-005	02	NR2..3.3	E49
	level minTypMax	real measure	
		dB	

power gain   **G_p**
                        G_p

The value as specified by level (minTypMax) of the ratio (in dB) of the output power to the input power of a bipolar transistor or wideband amplifier at specified supply voltage, frequency, output power and temperature of a temperature type.

AAE029-005 = frequency
AAE102-005 = supply voltage
AAE683-005 = temperature type
AAE685-005 = temperature
AAE955-005 = output power

AAE425-005	02	NR3..3.3ES2	F03
	level minTypMax	real measure	
		Hz	

transition frequency   **f_T**
                        f_T

The value as specified by level (minTypMax) of the frequency (in Hz) at which the small-signal current gain has decreased to unity when the output is short-circuited at specified collector current and collector-emitter voltage.

AAE406-005 = collector current (dc)
AAE412-005 = collector-emitter voltage

IEC 60748

| AAE426-005 | 02 | NR3..3.3ES2 | F03 |

level minTypMax   real measure
Hz

cut-off frequency   f_hfe
frequency at h_fe is -3dB f_{hfe}

The value as specified by level (minTypMax) of the frequency (in Hz) of a bipolar transistor at which the small-signal current gain is 3 dB below its value at low frequencies at specified collector current and collector-emitter voltage.

AAE406-005 = collector current (dc)
AAE412-005 = collector-emitter voltage

IEC 60748

| AAE427-005 | 01 | NR2 S..3.3 | E06 |

simple   real measure
V

base-emitter voltage   @V_BE
                            $@V_{BE}$

The direct voltage (in V) between the base and emitter terminals of a bipolar transistor, as a variable.

JESD 77B (2000)

| AAE429-005 | 01 | NR3..3.3ES2 | E09 |

level nom   real measure
F

varistor capacitance   C_var
                            C_{var}

The nominal capacitance (in F) of a varistor at specified frequency.

AAE029-005 = frequency

| AAE430-005 | 01 | NR2..3.3 | H06 |

level max   real measure
J

energy absorbing capacity max   E_abs
                                    E_{abs}

The maximum limiting energy content (in J), of a pulse current with specified virtual front time and virtual time to half-value, that can be absorbed by a varistor.

AAE125-005 = current (pulse)
AAE332-005 = virtual front time
AAE333-005 = virtual time to half-value

| AAE442-005 | 01 | M..8 | A56 |

simple   non-quantitative code

colour TV transmission   colour TV trans

Code of the type of colour television transmission applying to a delay line or IC.

MULTI   = multi-standard system
NTSC   = National Television System Committee
PAL   = Phase Alternating Line
SECAM   = Sequential Colour And Memory

| AAE457-005 | 01 | M..3 | A56 |

simple   non-quantitative code

numeral system   numeral system

Code of the numeral system of a digital signal function of an IC.

BIN   = binary
DEC   = decimal
HEX   = hexadecimal
OCT   = octal

ISO/IEC 2382-5 (1999)

| AAE458-005 | 02 | NR1..4 | Q62 |

level nom   integer measure
1

number of inputs   N_in
                            N_{in}

Number of inputs of a function of an IC.

| AAE459-005 | 01 | NR1..4 | J01 |

level nom   integer measure
bit

word size   N_bit
word length N_{bit}
number of bits

The number of bits per word applying to a digital function of an IC.

ISO 2382-4 (1999)

AAE464-005 01   M..3   A56
                 simple   non-quantitative code

mode of control   control mode

Code of the mode of control of a function of an IC.

E   = edge-triggered
L   = level-triggered
R   = reset
S   = set

AAE474-005 02   NR3..3.3ES2   J01
                 level nom   real measure
                             1

storage size   storage size
storage capacity   storage size
number of words

The number of words specifying the data storage
capacity of a digital memory function on an IC.

ISO 2382-12 (1988)

REMARKS:
The data storage capacity of a digital memory IC is
sometimes referred to as -memory organisation-
and (number of words) x (number of bits per word)
Examples: 256x1 : 256x4 : 1024x8 etc.

AAE487-005 02   M..3   A56
                 simple   non-quantitative code

frequency band   frequency band

IEC standard abbreviation of the name of the
frequency band for the application of an electric-
electronic component.

RF	radio frequency	3 kHz	-	300 GHz
VLF	very low frequency	3	-	30 kHz
LF	low frequency	30	-	300 kHz
MF	medium frequency	300	-	3000kHz
HF	high frequency	3	-	30 MHz
VHF	very high frequency	30	-	300 MHz
UHF	ultra high frequency	300	-	3000 MHz
SHF	super high frequency	3	-	30 GHz
EHF	extremely high frequency	30	-	300 GHz
BB	baseband:			
AF	audio frequency approx	0	-	20 kHz
VF	video frequency approx.	0	-	20 MHz
PB	passband			
IF	intermediate frequency			

AAE488-005 01   M..3   A56
                 simple   non-quantitative code

diode configuration   diode config

Code of the mode of configuration of a breakover
diode, rectifier diode, signal diode or variable
capacitance diode.

CAn   = n-diodes common anode
CCn   = n-diodes common cathode
SCn   = n-diodes series connected
SEn   = n-diodes separated
SIN   = single diode

REMARKS:
n is marked for the values 2 up to and including 9.

AAE489-005 01   M..3   A55
                 simple   non-quantitative code

diode technology   diode techn

Code of the type of technology of a diode.

AVA   = avalanche diode
PIN   = pin diode
SCH   = Schottky diode
TUN   = tunnel diode

AAE490-005 03   M..8   A56
                 simple   non-quantitative code

modulation method   modulation

IEC standard abbreviation of the type of modulation
for the application of an electric-electronic
component.

AM   = amplitude modulation
ASK   = amplitude shift keying
DM   = *delta modulation
DSB   = *double sideband
DSBSC   = *double sideband suppressed
          carrier
FM   = frequency modulation
FSK   = frequency shift keying
ISB   = *independent sideband
MPSK   = *multiple phase shift keying
n-FSK   = *n-condition frequency shift
          keying
PAM   = pulse amplitude modulation
PCM   = pulse code modulation
PDCM   = *differential pulse code
          modulation
PDM   = *pulse duration modulation
PDSK   = *differential phase shift keying
PFM   = *pulse frequency modulation
PM   = phase modulation
PPM   = *pulse position modulation
PSK   = phase shift keying
PTM   = pulse time modulation
QAM   = *quadrature amplitude modulation
QPSK   = *quadrature phase shift keying
SSB   = *single sideband
VSB   = *vestigial sideband

AAE494-005   02   M..35   A56
           simple   string

nearest conventional type   near conv type

Type number of the nearest conventional type, with comparable electrical specification, as the surface-mounted diode or transistor under consideration.

AAE496-005 01   NR3..3.3ES2   E09
           level minTypMax   real measure
                              F

diode capacitance   C_d
                            C_d

The value as specified by level (minTypMax) of the capacitance (in F) between the terminals of a diode or optoelectronic device at specified reverse voltage and frequency.

AAE029-005 = frequency
AAE335-005 = reverse voltage

IEC 60747-3 (1985)

AAE497-005 01   NR3..3.3ES2   E09
           simple   real measure
                       F

diode capacitance   @C_d
                            $@C_d$

The capacitance (in F) of a variable capacitance diode, as a variable.

NOTE
The specified diode capacitance has to be adjusted with the reverse voltage.

IEC 60747-3 (1985)

AAE499-005 01   NR2..3.3   E06
           simple   real measure
                       V

forward voltage   @V_F
on-state voltage $@V_F$

The forward voltage (in V) across a diode or optoelectronic device, as a variable.

IEC 60747-2 (2000)

AAE500-005 01   NR3..3.3ES2   E01
           simple   real measure
                       A

working current   @I_Z
                            $@I_Z$

The direct working current (in A) applied continuously to a voltage reference diode or voltage regulator diode, as a variable.

AAE502-005 02   NR2..3.3   E09
           level minTypMax   real measure
                              1

capacitance ratio   C_d1/C_d2
                            C_{d1}/C_{d2}

The value as specified by level (minTypMax) of the capacitance ratio of a tuning variable capacitance diode, within a reverse voltage range, specified by the reverse voltages (V_1 and V_2), and at specified frequency.

AAE029-005 = frequency
AAE961-005 = voltage V_1
AAE962-005 = voltage V_2

$$\frac{C_d 1\, at(V_R = V_1)}{C_d 2\, at(V_R = V_2)}$$

AAE503-005 01   M..3   A56
           simple   non-quantitative code

EHT stack application   EHT stack appl

Number of phases of the application mode of an EHT rectifier diode stack.

1   = single-phase
2   = two-phase
3   = three-phase

AAE505-005 01   M..3   A56
           simple   non-quantitative code

rectifier diode application   rec dio appl

Code of the application of a rectifier diode.

EFF   = efficiency diode
EHT   = extra-high tension rectifier diode

AAE506-005 01   **M..8**   **A56**
          simple   non-quantitative code

switching function   switch function

Code of the switching function of the contact
assembly of a relay or switch.

NOTE
Not all values apply to switches.

B	= B break	(on-off)
BB	= G break-break	
BBM	= H break-break-make	
BM	= C break-make	(change-over)
BMB	= E break-make-break	
BMM	= L break-make-make	
BNB	= M two-way break normally closed	
DB	= Y double break	
DBDM	= Z double break double make	
DBDM-T	= W DB double make (terminal on armature)	
DB-T	= V double break (terminal on armature)	
DM	= X double make	
DM-T	= U double make (terminal on armature)	
M	= A make	(off-on)
MB	= D make-break	
MBM	= I make-break-make	
MM	= F make-make	
MMB	= J make-make-break	
MNM	= K two-way make normally open	

AAE508-005 01   **M..3**   **A56**
          simple   non-quantitative code

sealing   sealing

IEC standard code of the sealing of a relay.

RT0	= non-sealed contacts
RTI	= sealed contacts
RTII	= sealed relays

AAE509-005 03   **M..3**   **A56**
          simple   non-quantitative code

U/I category   U/I category

IEC standard code of the category of contact voltage
and contact current of a relay.

NOTE
A contact may have the characteristics of more than
one category.

0	= category 0 contacts (0-30 mV; 0-10 mA)
1	= category 1 contacts (30 mV-60 V; 10 -100 mA)
2	= category 2 contacts (60-250 V; 100 mA-1 A)
3	= category 3 contacts (250-600 V; 1 -100 A)

AAE510-005 02   **X..3**   **A56**
          simple   non-quantitative code

chargeability type   chargeability

Code of the chargeability type of a battery.

PRI	= primary battery (single charge)
SEC	= secondary battery (rechargeable)

AAE511-007 02   **X..8**   **A56**
          simple   non-quantitative code

impedance type   impedance type

Code of the impedance type of an antenna.

CAP	= capacitive (whip)
IND	= inductive (ferroceptor)
RES	= resistive (tuned dipole)

AAE512-005 02   **NR3..3.3ES2**   **E06**
          level max   real measure
                       V

contact voltage (ac)   U_cont(ac)
rated operational voltage (ac) $U_{cont(ac)}$

The maximum operating rms switching voltage (in V)
of a switch or relay at resistive load.

NOTE
The rated voltage is the voltage between the contact
members before closing or after opening.

IEC 60127-1 (1988)

AAE513-005 02   **NR3..3.3ES2**   **E06**
level max   real measure
    V

limiting contact voltage   **U_cont(lim)**
insulation voltage $U_{cont(lim)}$

The maximum dc voltage (in V) of a switch or relay across open contacts.

IEC 60947-1 (2004)

AAE515-005 03   **NR1..4**   **E01**
level max   integer measure
    A

contact current (ac)   **I_cont(ac)**
    $I_{cont(ac)}$

The maximum rms switching current (in A) of a switch or relay at resistive load.

IEC 60947-1 (2004)

AAE517-005 01   **NR3..3.3ES2**   **E22**
level miNoMax   real measure
    H

inductance   **L**
    L

The value as specified by level (miNoMax) of the inductance (in H) of an inductive antenna, inductor, motor or transformer at specified frequency.

AAE029-005 = frequency

REMARKS:
For antennas, f = 10 kHz.

AAE518-005 03   **NR3..3.3ES2**   **E46**
level miNoMax   real measure
    1

quality factor   **Q**
    Q

The value as specified by level (miNoMax) of the quality factor of an inductive antenna or inductor at specified frequency.

AAE029-005 = frequency

AAE519-005 01   **NR3 S..3.3ES2**   **E06**
level nom   real measure
    V

nominal voltage   **V**
    V

The nominal voltage (in V) of a lamp or fuse.

REMARKS:
IEC 60432-1 (1999) :
If, for special reasons, lamps are marked with dual voltage, the rated voltage shall be taken as the mean of the voltage range.

AAE521-005 03   **NR3..3.3ES2**   **E01**
level nom   real measure
    A

nominal current   **I_nom**
    I_{nom}

The nominal current (in A) of a lamp at specified frequency and at the nominal voltage.

AAE029-005 = frequency

IEC 60598-1 (2003)

AAE522-005 02   **M..3**   **A58**
simple   non-quantitative code

mounting-cap code   **cap**

Code of the mounting cap of a lamp.

BAY = bayonet
LEA = leads
PIN = pin
SCR = screw

AAE523-005 01   **NR3..3.3ES2**   **H06**
level nom   real measure
    J

Joule-integral   **(I******2)*t**
    $I{\wedge}2t$

The nominal value of the integral of the square of the current over the operating time interval (in J) of a fuse.

NOTES
1 The operating time is the sum of the pre-arcing time and the arcing time.
2 When considered from point of view of the circuit protected by a fuse, the value of the Joule-integral over the operating time of the fuse is referred to a specific energy, i.e. the energy released as heat in 1 Ω of circuit resistance.

IEC 60050-441, amendment 1 (2000)

AAE524-005   02   M..3   A56
        simple   non-quantitative code

speed   speed

IEC standard code denoting the relative pre-arcing time/current characteristic of a fuse.

F   = quick acting
FF   = very quick acting
M   = medium
T   = time-lag
TT   = long time-lag

IEC 60127-1 (1988)

AAE525-005   02   NR3..3.3ES2   E01
        level max   real measure
                      A

rated current   I_n
                          I_n

The maximum continuous dc or ac rms current (in A) of a fuse at specified ambient temperature.

AAE014-005 = ambient temperature

IEC 62271-100 (2001)

AAE527-005   01   NR3..3.3ES2   F03
        level miNoMax real measure
                      Hz

centre frequency   f_c
                          f_c

The value as specified by level (miNoMax) of the centre frequency (in Hz) of a band pass or band stop filter.

AAE528-005   02   NR2 S..3.3   F09
        simple   real measure
                      dB

response level   @L_resp
                          $@L_{resp}$

The value (in dB) representing the variation of the level on a point of the response curve of a quantity of a filter or delay line compared with its maximum level, as a variable.

IEC 60050(806) (1996) derived

AAE529-005 03   NR2..3.3   E06
        level miNoMax   real measure
        V

open-circuit voltage   V_open
                          V_{open}

The value as specified by level (miNoMax) of the open-circuit voltage (in V) of a battery.

AAE530-005 02   NR2..3.3   E02
        level nom   real measure
                    Ah

nominal capacity   Ah
                           Ah

The nominal capacity (in Ah) of a battery.

AAE531-005	01	M..3	A55
	simple	non-quantitative code	

primary electrochemical system   **pri elchem sys**

IEC standard code of the electrochemical system of a primary battery.

A = oxygen – zinc -ammonium/zinc chloride
B = carbon monofluoride -lithium-ammonium/zinc chlor.
C = manganese dioxide – lithium-organic electrolyte
L = manganese dioxide – zinc -alkali metal hydroxide
M = mercuric oxide – zinc -alkali metal hydroxide
N = mercuric oxide + MnO2- zinc -alkali metal hydroxide
P = oxyge – zinc -alkali metal hydroxide
S = silver oxide – zinc -alkali metal hydroxide
T = silver oxide divalent- zinc -alkali metal hydroxide
X = manganese dioxide
    – zinc -ammonium/zinc chloride

IEC 60086-1 (2000)

REMARKS:

Code	anode	cathode	electrolyte
X	manganese dioxide	zinc	ammonium/zinc chloride
A	oxygen	zinc	ammonium/zinc chloride
B	carbon monofluoride	lithium	ammonium/zinc chloride
C	manganese dioxide	lithium	organic electrolyte
L	manganese dioxide	zinc	alkali metal hydroxide
M	mercuric oxide	zinc	alkali metal hydroxide
N	mercuric oxide + MnO2	zinc	alkali metal hydroxide
P	oxygen	zinc	alkali metal hydroxide
S	silver oxide	zinc	alkali metal hydroxide
T	silver oxide divalent	zinc	alkali metal hydroxide

AAE532-005	02	M..8	A55
	simple	non-quantitative code	

secondary electrochemical system   **sec elchem sys**

Code of the electrochemical system of a secondary battery.

AgCd	= silver	-cadmium	-alkaline
AgZn	= silver	-zinc	-alkaline
NiCd	= nickel	-cadmium	-alkaline
NiFe	= nickel	-iron	-alkaline
NiZn	= nickel	-zinc	-alkaline
Pb	= lead	-acid	-sulphuric acid

REMARKS:

Code	anode	cathode	electrolyte
NiCd	nickel	cadmium	alkaline
AgZn	silver	zinc	alkaline
Pb	lead	acid	sulphuric acid
NiFe	nickel	iron	alkaline
AgCd	silver	cadmium	alkaline
NiZn	nickel	zinc	alkaline

AAE533-005	02	NR3..3.3ES2	E44
	level nom	real measure	
		Ω	

input impedance   **|Z_in|**
$|Z_{in|}$

The nominal value of the modulus of the input impedance (in ohms) of a filter or microphone at specified frequency.

AAE029-005 = frequency

IEC 60050(131) (2002)

AAE534-005	01	NR3..3.3ES2	F03
	level minMax	real measure	
		Hz	

bandwidth   **B**
B

The value as specified by level (minMax) of the bandwidth (in Hz) of a filter or delay line at specified response level.

AAE528-005 = response level

IEC 60050(702) (1992)

AAE540-005	01	NR3..3.3ES2	E01
	level max	real measure A	

current rms **I_rms**
I_{rms}

The maximum rms current (in A) of an electric-electronic or electromechanical component at specified ambient temperature.

AAE014-005 = ambient temperature

AAE541-005	01	NR3..3.3ES2	F03
	level nom	real measure Hz	

frequency **f**
f

The nominal frequency (in Hz) of a delay line.

AAE542-005	01	M..3	A56
	simple	non-quantitative code	

delay line application **del appl**

Code of the recommended application of a delay line.

CTV = colour television
VCR = video cassette recorder
VLP = video long play

AAE543-005	02	NR3..3.3ES2	T07
	level miNoMax	real measure s	

delay time **$t**
τ

The value as specified by level (miNoMax) of the delay time (in s) of a filter or delay line at specified frequency.

AAE029-005 = frequency

IEC 60050(351) (1998)

AAE544-005	02	NR3..3.3ES2	T07
	level nom	real measure s	

phase delay time **t_del**
t_{del}

The nominal phase delay time (in s) of a delay line.

IEC 60050(55) (1970)

NOTE
The phase delay time is the ratio of the total phase delay through the network, in cycles, to the frequency in Hz.

AAE545-006	02	X..8	A56
	simple	non-quantitative code	

optoelectronic device function   **opt function**

Code of the function to which an optoelectronic device belongs.

IMAGE = image pickup devices
PHC   = photocoupler
PHE   = photoemitter
PHS   = photosensor

IEC 60747-5 (1992)

AAE546-005	03	NR3..3.3ES2	E01
	level max	real measure A	

forward current limit **I_Flim**
I_{Flim}

The maximum limiting direct current (in A) flowing through a diode, or diode part of an optoelectronic device, in the forward direction.

IEC 60747-2 (2000)

AAE547-005	01	NR2 S..3.3	E06
	simple	real measure V	

supply voltage **@V_B**
$@V_B$
$@V_{DD}$
$@V_{CC}$

The dc supply voltage (in V) applied to an optoelectronic device via an external circuit, as a variable.

| AAE548-005 | 02 | NR2..3.3 | E01 |
| | level minTypMax 1 | real measure | |

current transfer ratio **CTR**
CTR
I_C/I_F

The value as specified by level (minTypMax) of the dc transfer ratio of the collector current and the diode forward current in a photocoupler at specified diode forward current, collector-emitter voltage and junction temperature.

AAE271-005 = junction temperature
AAE274-005 = forward current
AAE412-005 = collector-emitter voltage

JESD 77B (2000)

| AAE550-005 | 02 | NR3..3.3ES2 | E06 |
| | level min | real measure V | |

isolation voltage min **V_IORM**
V_{IORM}

The minimum guaranteed dc test voltage (in V) across the shorted diode leads and the shorted transistor leads that a photocoupler must withstand for a specified duration.

AAE028-005 = duration

IEC 60747-5 (1992)

| AAE551-005 | 02 | NR3 S..3.3ES2 | E06 |
| | level max | real measure V | |

collector-emitter sat voltage **V_CEsat**
V_{CEsat}

The maximum guaranteed collector-emitter saturation voltage (in V) of a photocoupler at specified forward current, collector current and junction temperature.

AAE271-005 = junction temperature
AAE274-005 = forward current
AAE406-005 = collector current (dc)

| AAE553-005 | 03 | NR3..3.3ES2 | T07 |
| | level nom | real measure s | |

turn-off time **t_off**
t_{off}

The nominal time (in s) elapsing between the end of the input pulse (90 % of its maximum value) and the moment when the corresponding output signal of a photocoupler falls to 10 % of its maximum value, at specified forward current, collector current, supply voltage, load resistance and junction temperature.

AAE212-005 = load resistance
AAE271-005 = junction temperature
AAE274-005 = forward current
AAE406-005 = collector current (dc)
AAE547-005 = supply voltage

| AAE554-005 | 02 | NR3..3.3ES2 | T07 |
| | level nom | real measure s | |

turn-on time **t_on**
t_{on}

The nominal time (in s) elapsing between the start of the input pulse (10 % of its maximum value) and the moment when the corresponding output signal of a photocoupler is at least 90 % of its maximum value, at specified forward current, collector current, supply voltage load resistance and junction temperature.

AAE212-005 = load resistance
AAE271-005 = junction temperature
AAE274-005 = forward current
AAE406-005 = collector current (dc)
AAE547-005 = supply voltage

| AAE555-005 | 01 | X..3 | A56 |
| | simple | non-quantitative code | |

photoemitter function **PHE function**

Code of the function type to which a photoemitter belongs.

IRD = infrared emitting diode
LAS = laser
LED = LED

IEC 60747-5 (1992)

AAE556-005 02   **NR3..3.3ES2**   **L03**
               level nom   real measure
                               m

wavelength at peak emission $l_peak
peak-emission wavelength λ_{peak}

The nominal wavelength (in m) at which the spectral
radiant intensity is maximum at a specified diode
forward current and ambient temperature.

AAE014-005 = ambient temperature
AAE274-005 = forward current

IEC 60747-5 (1992)

AAE557-005 02   **NR3..3.3ES2**   **L03**
               level nom   real measure
                               m

spectral bandwidth Dl
                               $\Delta\lambda$

The nominal wavelength interval (in m) at which the
responsivity of a photosensor or intensity of a photo-
emitter is not less than half of its maximum value at
specified ambient temperature.

AAE014-005 = ambient temperature

REMARKS:
Intensity applies to photoemitters; responsivity, to
photosensitive devices.

AAE558-005 01   **NR1..4**   **T01**
               level nom   integer measure
                               deg

beamwidth between 50 % values $q_1/2
half-value beam angle $\theta_1/2$
                               $\alpha_{50\%}$

The nominal angle of the beamwidth (in deg)
between the half value directions of the intensity of a
photo-emitter or responsivity of a photosensor.

JESD 77B (2000)

REMARKS:
Intensity applies to photoemitters; responsivity, to
photosensors.

AAE560-005 02   **M..35**   **A91**
               simple   non-quantitative code

package colour   **package colour**
envelope colour

Name of the colour of a LED or IRED package.

blue-diff   = blue-diffused
colourless   = colourless-clear
green-clear = green-clear
green-diff   = green-diffused
red-clear   = red-clear
red-diff   = red-diffused
yellow-clear = yellow-clear
yellow-diff = yellow-diffused

REMARKS:
For the materials used and the resulting colours in
the emitting condition, see AAE563-005 and
AAE564-005.

AAE561-005 02   **NR3..3.3ES2**   **L10**
               level nom   real measure
                               W

radiant output power $f_e
radiant flux φ_e
                               P_{out}

The nominal radiant output power (in W) of a laser
photoemitter at specified wavelength and case
temperature.

AAE260-005 = case temperature
AAE569-005 = wavelength at peak value

IEC 60306-1 (1969)

AAE562-005 01   **M..17**   **A56**
               simple   string

luminous intensity class   l_v(cl)
                               $I_{v(cl)}$

Code of a luminous-intensity class of a LED.

| AAE563-005 | 01 | M..17 | A57 |
| | simple | non-quantitative code | |

LED crystal material **LED xtal mat**

The abbreviated name of the crystal material of a photoemitter.

GaAlAs = GaAlAs
GaAs = GaAs
GaAsP = GaAsP
GaAsP/GaP = GaAsP/GaP
GaP = GaP
GaP(ZnO) = GaP(ZnO)
GaPAs = GaPAs

REMARKS:
For the resulting colours, see AAE564-005.

| AAE564-005 | 01 | M..17 | A91 |
| | simple | non-quantitative code | |

LED light colour **light colour**
light colour

Code of the colour of the light emitted by a LED or IRED.

green = green
hyper-red = hyper-red
infrared = infrared
orange = orange
standard-red = standard-red
super-red = super-red
ultra-red = ultra-red
yellow = yellow

REMARKS:
For the relevant emitting material, see AAE563-005.

| AAE565-005 | 02 | NR3..3ES2 | L29 |
| | level min | real measure cd | |

luminous intensity I_v
I_v

The minimum luminous intensity of a LED (in cd) at a specified forward current and ambient temperature.

AAE014-005 = ambient temperature
AAE274-005 = forward current

IEC 60306-1 (1969)

| AAE566-005 | 03 | X..3 | A56 |
| | simple | non-quantitative code | |

radiation type **radiation type**

Code of the type of optical radiation to which a photosensor responds.

IR = infrared radiation
UV = ultraviolet radiation
VIS = visible radiation

IEC 60050(845) (1987)

| AAE567-005 | 01 | NR3..3ES2 | E01 |
| | level min | real measure A/W | |

spectral sensitivity s_$l
S_λ
S_R

The minimum ratio of the photocurrent to the incident radiant power (in A/W), of a photosensor at specified wavelength, reverse voltage and ambient temperature.

AAE014-005 = ambient temperature
AAE335-005 = reverse voltage
AAE569-005 = wavelength at peak value

| AAE568-005 | 02 | NR3..3ES2 | L03 |
| | level nom | real measure m | |

wavelength at peak response $l_peak
peak-response wavelength λ_{peak}

The nominal wavelength (in m) at which the spectral luminous sensitivity of a photosensor is maximum at specified reverse voltage and ambient temperature.

AAE014-005 = ambient temperature
AAE335-005 = reverse voltage

| AAE569-005 | 02 | NR3..3ES2 | L03 |
| | simple | real measure m | |

wavelength at peak value @$l_p
peak-wavelength @λ_p

The wavelength (in m) of the intensity of a laser photoemitter or responsivity of a photosensor, as a variable.

| AAE570-005 | 02 | NR3..3ES2 | L16 |
| | simple | real measure W/m^2 | |

irradiance   **@E_e**
irradiance E   @E$_e$

Irradiance applied to a photosensor (in W/m^2), as a variable.

ISO 31-6 (1992)

| AAE571-005 | 01 | NR3..3ES2 | E06 |
| | level nom | real measure V/W | |

responsivity   **responsivity**
voltage responsivity   responsivity

The nominal ratio of the rms signal to the value of the incident, chopped, radiant power (in V/W) of an infrared radiation photosensor at specified wavelength, chopping frequency and ambient temperature.

AAE014-005 = ambient temperature
AAE569-005 = wavelength at peak value
AAE935-005 = chopping frequency

| AAE572-005 | 02 | NR3 S..3.3ES2 | L10 |
| | level nom | real measure W/(Hz$^{-1/2}$) | |

equivalent noise irradiation   **NEP**
noise equivalent power   NEP

The nominal equivalent noise power (NEP) of an infrared radiation photosensor (in W/(Hz$^{1/2}$), at specified wavelength, chopping frequency and bandwidth.

AAE569-005 = wavelength at peak value
AAE934-005 = bandwidth
AAE935-005 = chopping frequency

IEC 60050(531) (1974)

| AAE573-005 | 01 | NR3..3ES2 | L03 |
| | level typ | real measure m | |

spectral response lower limit l_{min}
$\lambda_{min:}$

The typical lower limit of the wavelength (in m) above which an infrared radiation photosensor gives a response of at least 90 % of the maximum output, at a specified supply voltage and ambient temperature.

AAE014-005 = ambient temperature
AAE547-005 = supply voltage

REMARKS:
For the lower spectral response, i.e. for the total range, see also AAE574-005.

| AAE574-005 | 01 | NR3..3ES2 | L03 |
| | level typ | real measure m | |

spectral response upper limit l_{max}
λ_{max}

The typical upper limit of the wavelength (in m) below which an infrared radiation photosensor gives a response of at least 90 % of the maximum output, at a specified supply voltage and ambient temperature.

AAE014-005 = ambient temperature
AAE547-005 = supply voltage

REMARKS:
For the lower spectral response, i.e. for the total range, see also AAE573-005.

| AAE575-005 | 02 | NR3..3ES2 | T03 |
| | level nom | real measure m | |

element separation   **s_gap**
element gap   s$_{gap}$

The nominal distance (in m) between the sensitive elements of an infrared radiation photosensor.

| AAE576-005 | 01 | NR3..3ES2 | T03 |
| | level nom | real measure m | |

element length   **l_elem**
l$_{elem}$

The nominal length (in m) of the sensitive element(s) of an infrared radiation photosensor.

AAE577-005	01	NR3..3.3ES2	T03
	level nom	real measure	
		m	

element breadth   **b_elem**

b_{elem}

The nominal breadth (in m) of the sensitive element(s) of an infrared radiation photosensor.

AAE578-005	01	NR2 S..3.3	E06
	level minMax	real measure	
		V	

grid 1 voltage for cut-off   **V_g1(co)**
control grid voltage $V_{g1(co)}$

The value as specified by level (minMax) of the direct voltage (in V), on grid 1 with respect to the cathode, for visual extinction of the focused raster of a monochrome display tube at nominal grid 2 voltage.

IEC 60050 (531) (1974)

REMARKS:
Applies to grid-driven display tubes.

AAE579-005	01	NR2..3.3	E06
	level nom	real measure	
		V	

heater voltage   **V_f**

V_f

The nominal rms ac or dc voltage (in V) across the heater terminals of an electron tube.

IEC 60050 (531) (1974)

AAE580-005	01	NR3..3.3ES2	E01
	level nom	real measure	
		A	

heater current   **I_f**

I_f

The nominal rms ac or dc current (in A) flowing through the heater of an electron tube.

IEC 60050 (531) (1974)

AAE581-005	01	NR2..3.3	T03
	level max	real measure	
		m	

overall length   **l_o**

l_o

The maximum overall length (in m) of a product.

AAE584-005		01	NR2 S..3.3	E06
	level minMax		real measure	
			V	

grid 2 voltage for cut-off   **V_g2(co)**

$V_{g2(co)}$

The value as specified by level (minMax) of the direct voltage (in V) on grid 2 with respect to grid 1 for visual extinction of the focused spot of a colour display tube at maximum cathode voltage.

REMARKS:
Adjustment procedure:
With all cathodes at maximum voltage, V_{g2} is increased to a value at which one of the colours becomes just visible. Then the cathode voltages of the remaining guns are decreased until the other colours also become visible.

AAE585-005	01	NR3..3.3ES2	E06
	level nom	real measure	
		%	

focusing voltage   **V_foc**
V_{foc}

The nominal direct voltage (in %) relative to the anode voltage, on grid 3 with respect to grid 1, for focusing of a colour display tube.

AAE586-005	01	NR3..3.3ES2	E06
	level minMax	real measure	
		V	

focusing voltage   **V_foc**
V_{foc}

The value as specified by level (minMax) of the direct voltage (in V), on grid 4 with respect to grid 1, for focusing of a monochrome display tube.

AAE588-005	01	NR1..4	T01
	level nom	integer measure	
		deg	

deflection angle   **$a_defl**
α_{defl}

The nominal angle of deflection (in deg) on the diagonal of the useful screen used to identify a display tube.

AAE589-005 01   **NR2..3.3**   **T03**
          level nom   real measure
                           m

neck diameter   **d_neck**
                       d_{neck}

The nominal outer diameter (in m) of the neck of a display tube.

AAE590-005 01   **NR3..3.3ES2**   **E06**
          level miNoMax   real measure
                           V

anode voltage   **V_a**
final accelerator voltage V_a

The value as specified by level (miNoMax) of the direct voltage (in V) on the anode of a display tube.

REMARKS:
All voltages relative to grid 1 (cathode drive) or to cathode (grid drive).

AAE591-005 01   **NR2 S..3.3**   **E06**
          level minMax   real measure
                           V

cathode voltage for cut-off   **V_k(co)**
cathode voltage $V_{k(co)}$

The value as specified by level (minMax) of the direct voltage (in V), on the cathodes with respect to grid 1, for visual extinction of the focused spot of a colour display tube.

REMARKS:
See AAE584-005 for the adjustment procedure.

AAE592-005 01   **NR1..4**   **T03**
          level nom   integer measure
                           cm

screen diagonal   **d_scr**
                       d_{scr}

The nominal projected length of the useful screen diagonal (in cm) of a display tube, used as product identification.

REMARKS:
In the Pro Electron type designation code, for TV picture tubes and monitor tubes, the screen diagonal corresponds with the second (number) symbol, consisting of a two or three-digit number.
For other display tubes see AAE595-005.

AAE593-005 01   **NR3..3.3ES2**   **T03**
          level min   real measure
                           m

useful screen horizontal **b_scr**
                       b_{scr}

The minimum projected width (in m) of the useful screen measured along the horizontal axis of a display tube.

AAE594-005 01   **NR3..3.3ES2**   **T03**
          level min   real measure
                           m

useful screen vertical   **h_scr**
                       h_{scr}

The minimum projected height (in m) of the useful screen measured along the vertical axis of a display tube.

AAE595-005 01   **NR1..4**   **T03**
           level nom   integer measure
                           cm

tube size (cm)   **d_gls(c)**
                       $d_{gls(c)}$

The nominal overall outer diagonal (in cm) of the glass envelope of a display tube, used as product identification.

REMARKS:
In the Pro Electron type designation code for display tubes other than TV picture and monitor tubes, the face diagonal (in cm) corresponds with the first number.
For TV picture tubes and monitor tubes see AAE592-005.

AAE596-005 02   **NR2..3.3**   **L13**
          level nom   real measure
                           %

glass transmission   **glass trans**
light transmission   glass trans

The nominal quantity of visible light (in %) relative to the quantity of generated light, transmitted through the screen of a display tube.

REMARKS:
Measured at screen centre.

AAE598-005	01	M..8	A58
	simple	non-quantitative code	

base type   **base type**

EIA code of the base type of a display tube.

B10-277	= B10-277
B12-246	= B12-246
B12-262	= B12-262
B7-208	= B7-208
B8-228	= B8-228
B8-274	= B8-274
B8-288	= B8-288
B8H	= (neo-eightar/IEC67)
E7-91	= E7-91

AAE603-005	01	NR2 S..3.3	E06
	level minMax	real measure	
	V		

cathode voltage for cut-off   **V_k(co)**

$V_{k(co)}$

The value as specified by level (minMax) of the direct voltage (in V), on the cathode with respect to grid 1, for visual extinction of the focused raster of a monochrome display tube at minimum grid 2 voltage.

REMARKS:
Applies to cathode-driven display tubes.

AAE605-005	01	M..3	A91
	simple	string	

phosphor code   **phosphor code**

Pro Electron code of the phosphor type(s) of a display tube. REMARK: For codes see table D in naming document.

REMARKS:
1. In the Pro Electron type designation code, the phosphor code corresponds with the fifth (letter) symbol, consisting of a single letter or a two-letter combination.
2. The table gives fluorescent and phosphorescent colours, CIE colour coordinates, persistence and comparable EIA designation.
3. The FIRST LETTER denotes the colour of the fluorescence (or phosphorescence in the case of very long persistence screens) according to the regions of the Kelly Chart: the fluorescent colour is that seen during continuous or pulsating excitation (e.g. raster display) and the phosphorescent colour is that seen after excitation has ceased.
The SECOND LETTER denotes other specific differences in screen properties.
4. For colour TV picture tubes, the phosphor is defined by the letter X or the letters XX.
For colour monitor tubes, the phosphor (usually tri-colour) may be defined by the letter(s) X, XX or some other two-letter combination, excluding the letters I and O.
For monochrome TV picture tubes, the phosphor is defined by the letters WW.
For monochrome monitors, the phosphor may be defined by the letters WW or some other two-letter combination, excluding the letters I and O.

AAE606-005	01	M..3	A56
	simple	non-quantitative code	

application code   **appl code**

Pro Electron/EIA code indicating the primary application of a display tube.

A	= TV picture tube
D	= oscilloscope tube, single trace
E	= oscilloscope tube, double trace
F	= radar display tube
L	= storage display tube
M	= monitor tube
P	= projection tube
Q	= flying spot scanner
R	= recording tube with fibre optic output

Pro Electron (1988)

REMARKS:
In the Pro Electron type designation code, the application code corresponds with the first (letter) symbol and shall consist of a single letter.

AAE607-005	01	NR3..3ES2	E22
	level nom	real measure H	

line coil inductance   **L_H**
L_H

The nominal inductance (in H) of the line deflection coils of a deflection unit, connected in parallel.

REMARKS:
The inductance may include a series-connected loss coil.

AAE608-005	01	NR3..3ES2	E22
	level nom	real measure H	

field coil inductance   **L_V**
L_V

The nominal inductance (in H) of the field deflection coils of a deflection unit, connected in series.

REMARKS:
If connected in parallel the inductance is 4 times lower.

AAE609-005	01	NR3..3ES2	E33
	level nom	real measure Ω	

line coil resistance   **R_H**
R_H

The nominal dc resistance (in ohms) of the line deflection coils of a deflection unit, connected in parallel.

REMARKS:
The resistance may include the resistance of a series connected loss coil.

AAE610-005	01	NR3..3ES2	E33
	level nom	real measure Ω	

field coil resistance   **R_V**
R_V

The nominal dc resistance (in ohms) of the field deflection coils of a deflection unit, connected in series.

REMARKS:
If connected in parallel the resistance is 4 times lower.

AAE611-005	02	NR3..3ES2	E01
	level nom	real measure A	

line deflection current   **I_H**
I_H

The nominal peak-to-peak current (in A) to deflect the spot on the screen of a display tube assembly from edge to edge horizontally, at nominal anode voltage.

AAE612-005	02	NR3..3ES2	E01
	level nom	real measure A	

field deflection current   **I_V**
I_V

The nominal peak-to-peak current (in A) to deflect the spot on the screen of a display tube assembly from edge to edge vertically, at nominal anode voltage.

AAE616-005	02	NR1..4	H01
	level miNoMax	integer measure K	

thermal sensitivity index B25/75   **B_25/75**
B_25/75 value $B_{25}/75$

The value as specified by level (miNoMax) of the mean temperature sensitivity index (in K) of an NTC thermistor between 25 and 75 Cel.

IEC 60539 (2002)

AAE617-005	01	NR3..3ES2	E33
	level min	real measure Ω/s	

LDR recovery rate   **recovery rate**
recovery rate

The minimum recovery rate of the resistance of a light dependent resistor (in Ω/s) from light to dark, after a specified duration, initial illuminance level and colour temperature.

AAE028-005 = duration
AAE623-005 = colour temperature
AAE624-005 = illuminance

AAE618-005 01   **M..8**   **A56**
          simple   non-quantitative code

PTC application   **PTC application**

Code of a PTC thermistor identifying its application.

DEGA   = degaussing colour TV tubes (dual PTC)
HEAT   = heating element
MOTOR   = motor starting
PROT   = overload protection
SENS   = temperature sensing

AAE619-005 01   **NR2..3.3**   **E01**
          level min   real measure
                       A

PTC peak inrush current   **I_peak(inr)**
                                 $I_{peak(inr)}$

The minimum peak alternating inrush current (in A) of a degaussing PTC thermistor at specified ac voltage and ambient temperature.

AAE014-005 = ambient temperature
AAE150-005 = voltage (ac)

AAE620-005 01   **NR2..3.3**   **E01**
          level max   real measure
                       A

PTC peak current   **I_peak**
                          I_{peak}

The maximum peak alternating current (in A) of a degaussing PTC thermistor, at specified ac voltage, ambient temperature, and duration after switch-on of the ac voltage.

AAE014-005 = ambient temperature
AAE028-005 = duration
AAE150-005 = voltage (ac)

AAE621-005 01   **NR2..3.3**   **E06**
          level max   real measure
                       dB

resistor noise index   **F_res**
current-noise index F_{res}

The maximum current-noise index in one frequency decade (in dB), relative to the applied dc voltage, of a fixed linear resistor.

IEC 60195 (1965)

REMARKS:
The current-noise index 'microvolts per volt in a decade' expressed in dB is the term used to express the 'noisiness' of individual resistors.
The ideal rectangular pass band associated with the current-noise index is one frequency decade, geometrically centred at 1000 Hz (c/s).
The index is defined as follows:
Current-noise index = $20 \log_{10}$ (v_{rms})/V_T dB (in a frequency decade).
Where v_{rms} is the number of microvolts of open circuit rms current-noise voltage in a frequency decade and V_T is the number of dc volts applied to the resistor under test.
Since the current-noise power spectrum approximates to a 1/f frequency characteristic, the index provides an estimate of current-noise in any frequency decade.

AAE622-006 02   **M..3**   **A59**
          simple   non-quantitative code

pulse shape   **@pulse shape**

Code of the shape of a pulse applied to an electric, electronic or electromechanical component as a variable.

REC   = rectangular pulse
SQW   = square-wave pulse
EXP   = exponential or 'full lightning' impulse

REMARKS:
          References: full lightning impulse   IEC 60060-1 (1989)
          rectangular pulse   IEC 60050(702) (1992)

AAE623-005 01   **NR1..4**   **H01**
          simple   integer measure
                      K

colour temperature   **@T_col**
                            @T_{col}

The colour temperature of light (in K) applied to a light dependent resistor, as a variable.

AAE624-005	02	NR1..4	L34
	simple	integer measure	
		lx	

illuminance   **@E**
                             @E

The illuminance of light (in lx) applied to a light dependent resistor, as a variable.

AAE625-005	01	NR3..3ES2	E01
	level max	real measure	
		A	

thermistor current   **I_TDR**
                             I_{TDR}

The maximum dc current (in A) through a thermistor at specified dc voltage and ambient temperature.

AAE013-005 = voltage (dc)
AAE014-005 = ambient temperature

AAE626-005	01	NR3..3ES2	E33
	level miNoMax	real measure	
		Ω	

PTC switching resistance   **R_sw**
                             R_{sw}
                             R_b

The value as specified by level (miNoMax) of the zero-power resistance (in ohms) of a PTC thermistor corresponding with the switching temperature.

IEC 60738-1 (1998)

REMARKS:
The value of zero-power resistance corresponding to the switching temperature.
NOTE
The switching resistance is expressed with reference to the minimum resistance (R_{min}) by a specified multiplying factor. It may also be expressed as an absolute value of resistance and independent of $R_{min.}$

AAE629-005	01	NR3..3ES2	E01
	level max	real measure	
		A	

PTC residual current   **I_res**
                             I_{res}

The maximum residual current (in A) of a PTC thermistor at specified ac voltage and ambient temperature.

AAE014-005 = ambient temperature
AAE150-005 = voltage (ac)

AAE633-005	01	NR3..3ES2	T03
	level max	real measure	
		m	

lacquered length   **l_lacq**
                             L_{lacq}

The maximum length (in m) of the body of an electric/ electronic or electromechanical component with axial leads, including the lacquered part of the leads.

| AAE634-005 | 01 | M..8A57 | |
| | simple | non-quantitative code | |

terminal material   **terminal mat**

Code of the terminal material of an electric-electronic or electromechanical component.

AgPd   = silver-palladium
NiSn   = nickel-tin

| AAE635-001 | 01 | M..17 | A58 |
| | simple | string | |

resistor package code   res package
envelope code

Code of the package or envelope type of a resistor.

| AAE637-005 | 01 | M..17 | A58 |
| | simple | string | |

transistor package codetra package
envelope code

Code of the envelope type of a transistor.

| AAE638-005 | 02 | M..3 | A55 |
| | simple | non-quantitative code | |

transistor polarity   **polarity**

The abbreviated name of the type of semiconductor material forming the junctions of a bipolar transistor.

NPN   = negative-positive-negative
PNP   = positive-negative-positive

REMARKS:
N-   Extrinsic semiconductor in which the
type: conduction electron density exceeds the mobile hole density.
P-   Extrinsic semiconductor in which the
type: mobile hole density exceeds the conduction electron density.

AAE640-005 02   NR2..3.3   E01
level minMax   real measure
1

collector current ratio   I_1C/I_2C
I_{1C}/I_{2C}

The value as specified by level (minMax) of the ratio of the collector currents of a dual bipolar transistor at specified equal collector-base voltages, equal base-emitter voltages and at specified sum of emitter currents.

AAE408-005 = emitter current (dc)
AAE419-005 = collector-base voltage
AAE427-005 = base-emitter voltage

AAE641-005 02   NR2..3.3   E01
level max   real measure
A

collector saturation current I_Csat
I_{Csat}

The maximum collector current (in A) at which the collector-emitter and base-emitter saturation voltages of a switching bipolar transistor are given at specified dc saturation current gain and ambient temperature.

NOTE
At I_{Csat} the switching properties should also be characterised in a resistive circuit (t_d, t_r, t_s and t_f) using the same value for $+I_B$ and $-I_B$ as the base current used for V_{Cesat} and $V_{Besat.}$

AAE014-005 = ambient temperature
AAE952-005 = dc current gain sat

AAE642-005 01   NR3..3.3ES2   E01
level nom   real measure
A/K

differential current change $DI/$DT
$|\Delta I/\Delta T|$

The absolute value of the differential current change with temperature (in A/K) of a dual bipolar transistor at specified sum of emitter currents and equal collector-base voltage, within a temperature range, between specified temperatures (T_1 and T_2).

AAE408-005 = emitter current (dc)
AAE419-005 = collector-base voltage
AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

AAE644-005 01   NR3..3.3ES2   E06
level max   real measure
V/K

differential voltage change $DV/$DT
$|\Delta V/\Delta T|$

The absolute value of the maximum differential voltage change with temperature (in V/K) of a dual bipolar transistor at specified sum of emitter currents and equal collector-base voltage, within a temperature range, specified by the temperatures (T_1 and T_2).

AAE408-005 = emitter current (dc)
AAE419-005 = collector-base voltage
AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

AAE647-005 02   NR2..3.3   E49
level max   real measure
dB

average noise figure   F_AV
average noise factor F_{AV}
noise figure

The maximum average noise figure (in dB) of a bipolar transistor at specified collector current, collector-emitter voltage, source impedance and bandwidth.

AAE406-005 = collector current (dc)
AAE412-005 = collector-emitter voltage
AAE934-005 = bandwidth
AAE936-005 = source impedance

IEC 60747-1 (1983)

REMARKS:
Average noise figure:
Ratio of 1) the total output noise power within an output frequency band when the noise temperature of all input terminations is at the reference noise temperature T_0 at all frequencies that contribute to the output noise, to 2) that part of Item 1) caused by the noise of the signal-input termination within the signal-input frequency band.

AAE648-005 02   **NR2..3.3**   **E49**
level minTypMax   real measure
dB

spot noise figure   **F**
spot noise factor   F
noise figure

The value as specified by level (minTypMax) of the spot noise figure (in dB) of a bipolar transistor at specified collector current, collector-emitter voltage, source impedance and frequency.

AAE029-005 = frequency
AAE406-005 = collector current (dc)
AAE412-005 = collector-emitter voltage
AAE936-005 = source impedance

IEC 60747-1 (1983)

REMARKS:
Spot noise figure:
Ratio of 1) the total output noise power per unit bandwidth (spectral density) at a single output frequency when the noise temperature of all input terminations is at the reference noise temperature T_{no} at all frequencies that contribute to the output noise, to 2) that part of item 1) caused by the noise of the signal-input termination at the signal-input frequency.

AAE655-005 01   **NR3..3.3ES2**   **E09**
level max   real measure
F

input capacitance at gate   **C_ig**
C_{ig}

The maximum input capacitance (in F) at the gate of an N-channel field-effect transistor at specified drain current, drain-source voltage, gate-source voltage and frequency.

AAE029-005 = frequency
AAE367-005 = drain current (dc)
AAE376-005 = drain-source voltage
AAE381-005 = gate-source voltage

IEC 60747-8 (2000)

AAE656-005 02   **NR3..3.3ES2**   **E45**
level minTypMax   real measure
S

transfer conductance   **g_fs**
g_{fs}

The value as specified by level (minTypMax) of the nominal value of the real part of the transfer admittance (in S) of a forward biased field-effect transistor at specified drain current and drain-source voltage.

AAE367-005 = drain current (dc)
AAE376-005 = drain-source voltage

AAE657-005   **02 NR2..3.3**   **E49**
level minTypMax   real measure
dB

spot noise figure   **F**
spot noise factor   f
noise figure

The value as specified by level (minTypMax) of the spot noise figure (in dB) of a field-effect transistor at specified drain current, drain-source voltage, gate-source voltage, source impedance and frequency.

AAE029-005 = frequency
AAE367-005 = drain current (dc)
AAE376-005 = drain-source voltage
AAE381-005 = gate-source voltage
AAE936-005 = source impedance

IEC 60747-1 (1983)

REMARKS:
Spot noise figure:
Ratio of 1) the total output noise power per unit bandwidth (spectral density) at a single output frequency when the noise temperature of all input terminations is at the reference noise temperature T_{no} at all frequencies that contribute to the output noise, to 2) that part of item 1) caused by the noise of the signal-input termination at the signal-input frequency.

AAE682-006 02   **M..17**   **A91**
simple   non-quantitative code

level   **@level**

Abbreviated name of the value level of a physical quantity, distinguishing it from other possible or allowed values of the same quantity.

miNoMax   = minimum/nominal/maximum
minTyp   = minimum/typical
minTypMax= minimum/typical/maximum
typMax   = typical/maximum
minMax   = minimum/maximum

AAE683-005	02	M..8	A56
	simple	non-quantitative code	

temperature type   **@T type**

IEC code of the type of temperature indicating the specific part of a component, or its environment, to which it applies.

T_mb   = mounting base temperature
T_j   = junction temperature
T_tp   = tie-point temperature
T_amb   = ambient temperature
T_case = case (envelope) temperature
T_h   = heatsink temperature

REMARKS:
This data element to be used in combination with AAE685-005.

AAE684-005	01	NR3 S..3.3ES2	E01
	simple	real measure	
		A	

rate of rise of on-state curr   **@dI_T/dt**
                      $@dI_T/dt$

The rate of rise of the on-state current (in A/s) in a thyristor, as a variable.

AAE685-005	01	NR1 S..4	H02
	simple	integer measure	
		Cel	

temperature   **@T**
              @T

The temperature (in Cel) of a component, or its environment, as a variable.

REMARKS:
This data element to be used in combination with AAE683-005.

AAE686-005	03	M..8	A55
	simple	non-quantitative code	

IC technology   **IC technology**

Code indicating the semiconductor technology of an IC.

ACL   = **advanced CMOS logic
ALS   = ***advanced low power Schottky TTL
ASTTL   = ***advanced Schottky TTL
BICMOS = bipolar & CMOS combined
BIP   = bipolar
CMOS   = *complementary MOS
ECL   = *emitter coupled logic
FAST   = ***Fast TTL
HCMOS   = **high speed CMOS
I2L   = *integrated injection logic
LSTTL   = ***low power Schottky TTL
MIXMOS = NMOS & CMOS combined
MOS   = metal oxide semiconductor
NMOS   = *N-type MOS
PMOS   = *P-type MOS
STDTTL   = **standard TTL
STTL   = **Schottky TTL
TTL   = *transistor transistor logic

AAE687-005	01	M..8	A59
	simple	non-quantitative code	

quality approval authority   **QA authority**
quality assurance
quality certification

The abbreviated name of the authority for quality certification of products.

AQAP = Allied Quality Assurance Procedure
CECC = Cenelec Electronic Components
          Committee
IECQ = IEC Quality Assessment System
MIL   = Military Standard (USA)

AAE688-005	02	NR2..3.3	H12
	level max	real measure	
		K/W	

thermal resistance   **R_th**
                   R_{th}

The maximum operating thermal resistance (in K/W), of an electric-electronic or electromechanical component, of a specified thermal resistance type.

AAE689-005 = thermal resistance type

ISO 31-4 (1992)

**AAE689-005 01			M..17			A56**
						simple		non-quantitative code

thermal resistance type @R_th(type)
						$@R_{th(type)}$

Code specifying the thermal resistance type of an electric/electronic component.

R_th(h-a) = R_{th} from heatsink to
			ambient free air
R_th(j-a) = R_{th} from junction to
			ambient free air
R_th(j-c) = R_{th} from junction to case
R_th(j-h) = R_{th} from junction to heatsink
R_th(j-mb) = R_{th} from junction to
			mounting base
R_th(j-t) = R_{th} from junction to tie-point
R_th(mb-h) = R_{th} from mounting base to
			heatsink

REMARKS:
This data element is to be used in combination with AAE688.

**AAE690-005 01			NR2 S..3.3			E06**
						level minTypMax		real measure
											V

**supply voltage			V_sup**
dc supply voltage			V_{sup}

The value as specified by level (minTypMax) of the direct supply voltage, applied to an IC.

REMARKS:
Commonly known supply voltage symbols:
V_{CC} for TTL, NMOS and HCMOS circuits
V_{DD} for CMOS circuits
V_P for analogue circuits
V_{EE} for ECL circuits

**AAE691-005 01			NR3 S..3.3ES2			E01**
						level minTypMax		real measure
											A

**supply current			I_sup**
dc supply current			I_{sup}

The value as specified by level (minTypMax) of the direct supply current of an IC.

REMARKS:
Commonly known supply current symbols:
I_{CC} for TTL, NMOS and HCMOS circuits
I_{DD} for CMOS circuits
I_{GND} for the quiescent power supply current (ground current) of CMOS and HCMOS circuits.
I_P for analogue circuits

**AAE692-005 02			NR3 S..3.3ES2			E01**
						level max		real measure
										A

**standby current disabled		I_stbD**
							I_{stbD}
							I_{CCstbD}

The maximum standby supply current (in A) of a combinatorial, sequential or interface function of an IC with the output disabled.

**AAE693-005 02			NR3 S..3.3ES2			E01**
						level max		real measure
										A

**standby current enabled		I_stbE**
							I_{stbE}
							I_{CCstbE}

The maximum standby supply current (in A) of a digital combinatorial, sequential or interface IC with the output enabled.

**AAE696-005 01			X..3 A56**
						simple		non-quantitative code

**tube type			tube type**

Code of the category to which an electron tube belongs.

CRT = display tubes (cathode-ray tube)
GAS = gas filled tubes
PHO = photosensitive tubes
SCC = space charge controlled tubes
SCW = space charge wave tubes

**AAE697-005 01			NR3..3.3ES2			E01**
						level minTypMax		real measure
											A

**current consumption		I_tot**
							I_{tot}

The value as specified by level (minTypMax) of the direct supply current (in A) applied to an amplifier at specified supply voltage and temperature of a temperature type.

AAE102-005 = supply voltage
AAE683-005 = temperature type
AAE685-005 = temperature

AAE698-005 01	NR2..3.3	E06
level minTypMax	real measure	
dB(mV)		

output voltage **V_o**
V_o

The value as specified by level (minTypMax) of the output voltage (in dBmV) of a wideband amplifier at specified supply voltage, intermodulation distortion and temperature of a temperature type.

AAE102-005 = supply voltage
AAE683-005 = temperature type
AAE685-005 = temperature
AAE709-005 = intermod distortion d_im

REMARKS:
Intermodulation distortion measured according to the three-tone method:

$V_p = V_o$; f_p = 287.25 MHz
$V_q = V_{o-6}$ dB ; f_q = 294.25 MHz
$V_r = V_{o-6}$ dB ; f_r = 296.25 MHz

measuring frequency is $f_{(p+q-r)}$ = 285.25 MHz
60 dB(mV) means 60 dB above 1 mV, is 1 V.

AAE699-005 02	NR2 S..3.3	E06
level minTypMax	real measure	
dB		

composite triple beat **CTB**
CTB

The value as specified by level (minTypMax) of the quotient (in dB) of a wideband amplifier of: 1) the sum of frequency components measured at a specified TV channel arising from superposition of any three frequency components when a specified number of adjacent channels have an input signal resulting in an equal output voltage, to 2) the wanted output signal level at specified supply voltage, temperature of a temperature type.

AAE102-005 = supply voltage
AAE683-005 = temperature type
AAE685-005 = temperature

AAE700-005 02	NR2 S..3.3	E06
level minTypMax	real measure	
dB		

2nd-order beat **d_2**
d_2

The value as specified by level (minTypMax) of the quotient (in dB) of a wideband amplifier of: 1) the amplitude of the frequency component arising by the superposition of two input signals with specified amplitude and frequency (or channel) measured at a specified frequency (or channel), and 2) the amplitude of one of two original frequencies at specified supply voltage, temperature and temperature type.

AAE102-005 = supply voltage
AAE683-005 = temperature type
AAE685-005 = temperature

REMARKS:
Measuring method:

$V_p = V_o$ $f_p = f_1$ (channel p)
$V_q = V_o$ $f_q = f_2$ (channel q)

2nd-order beat measured at $(f_1 + f_2)$

AAE701-005 01	NR1 S..4	E06
level minTypMax	integer measure	
dB		

input return losses **S_11**
S_{11}

The value as specified by level (minTypMax) of the complex ratio (in dB) of: 1) a sinusoidal incident current, to 2) the corresponding reflected current at the input of a wideband amplifier at specified supply voltage, input impedance, temperature of a temperature type and a frequency range between specified frequencies (f_1 and f_2).

AAE102-005 = supply voltage
AAE683-005 = temperature type
AAE685-005 = temperature
AAE936-005 = source impedance
AAE963-005 = frequency f_1
AAE964-005 = frequency f_2

AAE702-005 01   **NR1 S..4**   **E06**
level minTypMax integer measure
dB

output return losses   **S_22**
S_{22}

The value as specified by level (minTypMax) of the complex ratio (in dB) of: 1) a sinusoidal incident current, to 2) the corresponding reflected current at the output of a wideband amplifier at specified supply voltage, output impedance, temperature of a temperature type and a frequency range between specified frequencies (f_1 and f_2).

AAE102-005 = supply voltage
AAE683-005 = temperature type
AAE685-005 = temperature
AAE938-005 = load impedance
AAE963-005 = frequency f_1
AAE964-005 = frequency f_2

AAE703-005 01   **NR1 S..4**   **E06**
level minTypMax integer measure
dB

cross modulation   **Xmod**
Xmod

The value as specified by level (minTypMax) of the cross modulation (in dB) measured at the output of a wideband amplifier when a specified number of carrier frequencies, with each an equal output voltage, is applied to the input of the module at specified supply voltage, temperature of a temperature type.

NOTES
1 All carrier frequencies are switched on/off with a duty cycle of 50% and a repetition frequency of: 15,750 kHz for 60 Hz mains frequencies and 15,625 kHz for 50 Hz mains frequencies.

2 100% is specified as 0 dB.
   1% is specified as -40 dB.

AAE102-005 = supply voltage
AAE683-005 = temperature type
AAE685-005 = temperature

AAE704-005 02   **NR2..3.3**   **E49**
simple   real measure
W

sync output power   **@P_o(syn)**
$@P_{o(syn)}$

The operating sync output power (in W) of a bipolar rf power transistor or wideband amplifier, measured according to the three-tone test method, as a variable.

REMARKS:
Three-tone test method:
vision frequency f_v level = -8 dB
sound carrier frequency f_v + 5.5 MHz   level = -7 dB
sideband signal f_v – 1.1 MHz   level = -16 dB
zero level 0 dB corresponds to peak sync level.

AAE705-005 02   **NR2 S..3.3**   **E49**
level minTypMax   real measure
dB

slope cable equivalent **SL**
SL

The value as specified by level (minTypMax) of the difference in power gain (in dB) of a wideband amplifier measured at specified frequencies (f_1 and f_2) of a frequency range, with an optimised cable equivalent impedance, at specified supply voltage and temperature of a temperature range.

AAE102-005 = supply voltage
AAE683-005 = temperature type
AAE685-005 = temperature
AAE963-005 = frequency f_1
AAE964-005 = frequency f_2

AAE706-005 03   **NR2..3.3**   **E49**
level minTypMax   real measure
dB

conformity of frequency response   FL
flatness of frequency response   FL
flatness

The value as specified by level (minTypMax) of the gain difference (in dB) of a wideband amplifier of the measured power gain and the theoretical calculated power gain with an optimised cable equivalent impedance at specified supply voltage, temperature of a temperature type and a frequency range between specified frequencies (f_1 and f_2).

AAE102-005 = supply voltage
AAE683-005 = temperature type
AAE685-005 = temperature
AAE963-005 = frequency f_1
AAE964-005 = frequency f_2

AAE707-005   02   NR2..3.3   E49
  level minTypMax   real measure
                      W

peak envelope power PEP   PEP
                      PEP

The value as specified by level (minTypMax) of the peak envelope power (in W) of a bipolar transistor in SSB mode of operation, measured according to the two-signal method, at specified collector-emitter voltage, collector current, frequency and temperature of a temperature type.

AAE029-005 = frequency
AAE406-005 = collector current (dc)
AAE412-005 = collector-emitter voltage
AAE683-005 = temperature type
AAE685-005 = temperature

AAE708-005 02   NR2..3.3   E49
  simple   real measure
                      W

peak envelope power   @PEP
                      @PEP

The value of the peak envelope power (in W) of a bipolar transistor or wideband amplifier in SSB mode of operation, measured according to the two-signal method, as a variable.

AAE709-005 01   NR1 S..4   E06
  simple   integer measure
                      dB

intermod distortion d_im   @d_im
                      @d_{im}

The intermodulation distortion (in dB) of a bipolar rf power transistor or wideband amplifier measured according to the three-tone test method, as a variable.

REMARKS:
vision frequency f_v level = -8 dB
sound carrier frequency f_v + 5.5 MHz   level = -7 dB
sideband signal f_v – 1.1 MHzl   level = -16 dB
zero level 0 dB corresponds to peak sync level.

AAE710-005 01   NR1 S..4   E06
  simple   integer measure
                      dB

intermod distortion d_3 @d_3
                      @d_3

The intermodulation distortion (in dB) of a bipolar rf power transistor, measured according to the two-tone test method, as a variable.

REMARKS:
Two-tone test method:
f_1 = 28.000 MHz $V_1 = V_o$ – 6 dB
f_2 = 28.001 MHz $V_2 = V_o$ – 6 dB
measured harmonic component is
(f_2 + 1 kHz) – (f_1 – 1 kHz) = 3 kHz

AAE711-005 01   NR2..3.3   E06
  level minTypMax   real measure
                      dB

intermodulation distortion d_im   d_im
                      d_{im}

The value as specified by level (minTypMax) of the intermodulation distortion (in dB) of an rf bipolar power transistor measured according to the three-tone test method at specified sync output power, vision frequency, collector-emitter voltage, collector current and temperature of a temperature type

AAE029-005 = frequency
AAE406-005 = collector current (dc)
AAE412-005 = collector-emitter voltage
AAE683-005 = temperature type
AAE685-005 = temperature
AAE704-005 = sync output power

REMARKS:
vision frequency f_v level = -8 dB
sound carrier frequency f_v + 5.5 MHz   level = -7 dB
sideband signal f_v – 1.1 MHzl   level = -16 dB
zero level 0 dB corresponds to peak sync level.

AAE712-005 01   **NR2 S..3.3**   **E06**
level minTypMax   real measure
dB

intermodulation distortion d_3   d_3
d_3

The value as specified by level (minTypMax) of the third order intermodulation distortion (in dB) of a bipolar rf power transistor measured according to the two-tone test method at specified peak envelope power, frequency, collector-emitter voltage, collector current and temperature of a temperature type

AAE029-005 = frequency
AAE406-005 = collector current (dc)
AAE412-005 = collector-emitter voltage
AAE683-005 = temperature type
AAE685-005 = temperature
AAE708-005 = peak envelope power

REMARKS:
Two-tone test method: f_1 = 28.000 MHz, $V_1 = V_o - 6dB$ f_2 = 28.001 MHz, $V_2 = V_o - 6dB$ measured harmonic component is: $(f_2 + 1 \text{ kHz}) - (f_1 - 1 \text{ kHz}) = 3 \text{ kHz}$

AAE713-005 02   **NR2..3.3**   **E49**
level minTypMax   real measure
dB

unilateral power gain   G_UM
G_{UM}

The value as specified by level (minTypMax) of the power gain (in dB) of a bipolar transistor, considered as a four-terminal network, conjugately matched at its output terminals, assuming the s_{re} (reverse transmission coefficient at common emitter configuration) is zero at specified collector-emitter voltage, collector current, frequency and temperature of a temperature type

AAE029-005 = frequency
AAE406-005 = collector current (dc)
AAE412-005 = collector-emitter voltage
AAE683-005 = temperature type
AAE685-005 = temperature

$$G_{UM} = 10 \log \frac{s_{fe}^2}{(1 - s_{ie}^2)(1 - s_{oe}^2)}$$

AAE714-005 03   **NR2..3.3**   **E49**
level minTypMax   real measure
W

synchronous output power   P_o(syn)
$P_{o(syn)}$

The value as specified by level (minTypMax) of the synchronous output power (in W) of a bipolar rf power transistor measured according to the three-tone test method at specified intermodulation distortion, frequency, collector-emitter voltage, collector current and temperature of a temperature type.

AAE029-005 = frequency
AAE406-005 = collector current (dc)
AAE412-005 = collector-emitter voltage
AAE683-005 = temperature type
AAE685-005 = temperature
AAE709-005 = intermod distortion d_im

REMARKS:
Three-tone test method:

vision frequency	f_v	level = -8 dB
sound carrier frequency	f_v + 5.5 MHz	level = -7 dB
sideband signal	f_v – 1.1 MHz	level = -16 dB

zero level 0 dB corresponds to peak sync level.

AAE715-005 02   **NR1..4**   **E49**
level minTypMax integer measure
%

efficiency $h
η

The value as specified by level (minTypMax) of the ratio (in %) of the caloric power in the load of a bipolar power transistor to the total power supplied to the transistor at specified application, frequency, load power, collector current, collector-emitter voltage, and temperature of a temperature type.

AAE029-005 = frequency
AAE406-005 = collector current (dc)
AAE412-005 = collector-emitter voltage
AAE683-005 = temperature type
AAE685-005 = temperature

REMARKS:
For CW operation the caloric power is equal to P_L.
For SSB operation the caloric power is equal to PEP/2.
The total power supplied to the transistor is $V_C \times I_C$.

AAE716-005 02 **NR1 S..4** **E06**
level minTypMax integer measure
V/V

difference in penetration factor
$Dg_os/g_fs
Δ g_{os}/g_{fs}

The value as specified by level (minTypMax) of the ratio (in V/V) of the change of gate-source voltage difference to the change of drain-gate voltage of a dual field-effect transistor at specified constant drain current, drain-gate voltage and temperature of temperature type.

AAE367-005 = drain current (dc)
AAE375-005 = drain-gate voltage
AAE683-005 = temperature type
AAE685-005 = temperature

$$\left| \Delta \frac{g_{os}}{g_{fs}} \right| = \frac{d\Delta V_{GS}}{dV_{DG}}$$

AAE717-005 03 **NR1 S..4** **E44**
level minTypMax integer measure
Ω

difference in transfer impedance **|$D1/g_fs|**
|Δ $1/g_{fs}$|

The value as specified by level (minTypMax) of the ratio (in ohms) of the change of gate-source voltage difference to the change of drain current of a dual field-effect transistor at specified constant drain current, drain-gate voltage and temperature of a temperature type.

AAE367-005 = drain current (dc)
AAE375-005 = drain-gate voltage
AAE683-005 = temperature type
AAE685-005 = temperature

$$\left| \Delta \frac{1}{g_{fs}} \right| = \frac{d\Delta V_{GS}}{dI_D}$$

AAE718-005 01 **NR2 S..3.3** **E06**
level minTypMax real measure
V

HIGH-state input voltage **V_IH**
input voltage HIGH V_{IH}
HIGH-level input voltage

The value as specified by level (minTypMax) of the HIGH-state dc input voltage (in V), applied to a digital function of an IC at specified supply voltage and in a temperature range between specified temperatures (T_1 and T_2).

AAE102-005 = supply voltage
AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

IEC 60748-2 (1997)

AAE719-005 01 **NR2 S..3.3** **E06**
level minTypMax real measure
V

LOW-state input voltage **V_IL**
input voltage LOW V_{IL}
LOW-level input voltage

The value as specified by level (minTypMax) of the LOW-state dc input voltage (in V), applied to a digital function of an IC at specified supply voltage and in a temperature range between specified temperatures (T_1 and T_2).

AAE102-005 = supply voltage
AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

IEC 60748-2 (1997)

AAE720-005 02 **NR3..3.3ES2** **T07**
level max real measure
s

access time **t_ACC**
address to output delay t_{ACC}
access time from RAS t_{RAC}

The maximum access time interval (in s), from address to output, of a memory function of an IC.

NOTE
In the case of a dynamic RAM, it is the time interval (t_{RAC}) between row address strobe and output.

ISO 2382-12 (1988)

AAE721-005	02	NR3..3.3ES2	T07
	level max	real measure	
		s	

access time from CAS   t_CAC
t_CAC

The maximum time interval (in s) between the application of the CAS (Column Address Strobe) input pulse, other necessary inputs being already present, and the availability of valid data signals at an output of a DRAM.

IEC 60748-2 (1997)

| AAE722-007 | 02 | X..8 A56 | |
| | simple | non-quantitative code | |

storage function   sto function
memory/register function

Code identifying the storage function of a digital IC.

CAM = content addressable memory Ics
CCD = charge coupled device Ics
RAM = random access memory Ics
REGI = registers
ROM = read only memory Ics

| AAE724-005 | 01 | X..3 A56 | |
| | simple | non-quantitative code | |

trigger device function trg function

Code of the function of a trigger device.

DIA = diacs
THY = thyristors
TRI = triacs

AAE725-005	02	NR1..4	E06
	level minMax	integer measure	
		V	

breakover voltage   V_(BO)
$V_{(BO)}$

The value as specified by level (minMax) of the direct voltage (in V) at the breakover point of a diac, which is where the differential resistance is zero and the principal voltage has reached a maximum value, at specified rate of rise of off-state voltage.

AAE727-005 = rate of rise of off-state volt

IEC 60747-6 (2000)

AAE726-005	01	NR1 S..4	E06
	level min	integer measure	
		V	

output voltage   V_O
breakback voltage V_O

The minimum output voltage (in V) of a diac at a specified rate of rise of voltage (dV/dt) and junction temperature.

AAE271-005 = junction temperature
AAE727-005 = rate of rise of off-state volt

AAE727-005	01	NR3 S..3.3ES2	E06
	simple	real measure	
		V/s	

rate of rise of off-state volt @dV_D/dt
$@dV_D/dt$

The rate of rise (in V/s) of the off-state voltage of a diac or thyristor, as a variable.

AAE728-005	03	NR1..4	E01
	level max	integer measure	
		A	

rms on-state current   I_T(RMS)
$I_{T(RMS)}$

The maximum limiting rms on-state current (in A) flowing from the anode to the cathode in a thyristor or triac.

IEC 60747-6 (2000)

AAE729-005	03	NR1..4	E01
	level max	integer measure	
		A	

repetitive peak on-state current   I_TRM
I_{TRM}

The maximum limiting peak on-state current (in A), including all repetitive transient currents, in a triac or thyristor.

IEC 60747-6 (2000

AAE730-005	02	NR3 S..3.3ES2	E01
	level max	real measure A	

non-rep peak on-state current I_TSM
surge on-state current I_{TSM}

The maximum limiting non-repetitive peak on-state current (in A) in a thyristor or triac, at specified duration and mounting-base temperature.

AAE028-005 = duration
AAE272-005 = mounting base temperature

IEC 60747-6 (2000)

AAE731-005	01	NR3 S..3.3ES2	E01
	simple	real measure A	

gate current   **@I_G**
                          $@I_G$

The gate current in a thyristor or triac (in A), as a variable.

AAE732-005	01	NR3 S..3.3ES2	E01
	level min	real measure A	

gate trigger current   **I_GT**
                          I_{GT}

The minimum gate current (in A) required to switch a thyristor or triac from the off-state to the on-state at specified off-state voltage and junction temperature.

AAE271-005 = junction temperature
AAE737-005 = off-state voltage

IEC 60747-6 (2000)

AAE733-005	01	NR3 S..3.3ES2	E01
	simple	real measure A	

on-state current   **@I_T**
                          $@I_T$

The dc on-state current (in A) flowing from anode to cathode in a thyristor or triac, as a variable.

IEC 60747-6 (2000)

AAE734-005	02	NR3 S..3.3ES2	E01
	level max	real measure A/s	

rate of rise on-state current dI_T/dt
                          dI_T/dt

The maximum limiting rate of rise of on-state current (in A/s) after triggering with a specified gate current to a specified on-state current at a stated rate of rise of the gate current.

AAE731-005 = gate current
AAE733-005 = on-state current
AAE736-005 = rate of rise of gate current

IEC 60747-6 (2000)

AAE735-005	01	NR3 S..3.3ES2	E01
	simple	real measure A/s	

rate of rise of commut current @dI_com/dt
                          $@dI_{com}/dt$

The rate of rise of the commutating current (in A/s) of a triac, as a variable.

AAE736-005	01	NR3 S..3.3ES2	E01
	simple	real measure A/s	

rate of rise of gate current   @dI_G/dt
                          $@dI_G/dt$

The rate of rise of the gate current (in A/s) of a thyristor or triac, as a variable.

AAE737-005	01	NR3 S..3.3ES2	E06
	simple	real measure V	

off-state voltage   **@V_D**
                          $@V_D$

The off-state voltage (in V) between the thyristor or triac anode and cathode, as a variable.

IEC 60747-6 (2000)

AAE738-005	01	NR3 S..3.3ES2	E06
	level max	real measure V	

off-state voltage   **V_D**
                          V_D

The maximum limiting continuous voltage (in V) between the thyristor or triac anode and cathode in the off state, excluding repetitive and non-repetitive voltages.

IEC 60747-6 (2000)

AAE739-005   02   NR3 S..3.3ES2   E06
　　　　level max   real measure
　　　　　　　　　　V

repetitive peak off-state voltage   V_DRM
　　　　　　　　　　V_{DRM}

The maximum limiting repetitive peak off-state voltage (in V) across a thyristor or triac including all repetitive voltages but excluding all non-repetitive transient voltages.

IEC 60747-6 (2000)

AAE740-005   02   NR3 S..3.3ES2   E06
　　　　level max   real measure
　　　　　　　　　　V/s

rate of rise of off-state voltage   dV_D/dt
　　　　　　　　　　dV_D/dt

The maximum rate of rise (in V/s) of the off-state voltage that will not trigger the device at a specified off-state voltage and junction temperature.

AAE271-005 = junction temperature
AAE737-005 = off-state voltage

IEC 60747-6 (2000)

AAE741-005   02   NR3 S..3.3ES2   E06
　　　　level max   real measure
　　　　　　　　　　V

rate of rise commutating voltage   dV_com/dt
　　　　　　　　　　dV_{com}/dt
　　　　　　　　　　dV_D/dt

The maximum rate of rise (in V/s) of the commutating voltage, immediately following on-state current conduction in the opposite direction, that will not cause switching from the off-state to the on-state at specified values of the rate of rise of commutating current, rms on-state current, off-state voltage and mounting-base temperature.

AAE272-005 = mounting base temperature
AAE735-005 = rate of rise of commut current
AAE737-005 = off-state voltage
AAF063-005 = rms on-state current

IEC 60747-6 (2000)

AAE742-005 01   NR3 S..3.3ES2   E06
　　　　level min   real measure
　　　　　　　　　　V

gate trigger voltage   V_GT
　　　　　　　　　　V_{GT}

The minimum gate voltage (in V) required to switch a triac or thyristor from the off-state to the on-state at a specified off-state voltage and junction temperature.

AAE271-005 = junction temperature
AAE737-005 = off-state voltage

IEC 60747-6 (2000)

AAE743-005 01   X..3   A56
　　　　simple   non-quantitative code

thyristor function   thy function

Code of the function of a thyristor.

FTO = fast turn off thyristors
GTO = gate turn off thyristors
RYB = reverse blocking thyristors

AAE744-005   02   NR3..3.3ES2   E01
　　　　level max   real measure
　　　　　　　　　　A

average on-state current   I_T(AV)
　　　　　　　　　　$I_{T(AV)}$

The maximum limiting average dc current (in A) flowing from anode to cathode in the on-state of a thyristor during one mains cycle at a specified mounting base temperature.

AAE272-005 = mounting base temperature

IEC 60747-6 (2000)

REMARKS:
One 50 Hz mains cycle = 20 ms. One 60 Hz mains cycle = 16,7 ms.

AAE745-005 01   NR1..4   E01
　　　　level max   integer measure
　　　　　　　　　　A

controllable anode current   I_TCRM
　　　　　　　　　　I_{TCRM}

The maximum limiting direct anode current (in A) that can be controlled, i.e. interrupted, in the conducting state by reverse biasing of the gate-cathode voltage in a gate turn off thyristor.

AAE746-005	02	NR3..3.3ES2	T07
	level max	real measure s	

fall time   **t_f**
time constant t_f

The maximum time interval (in s) between 90 % of the on-state current and the moment when this current has decreased to 10 %, at specified values of the on-state current, off-state voltage and junction temperature.

AAE271-005 = junction temperature
AAE733-005 = on-state current
AAE737-005 = off-state voltage

AAE747-005	02	NR3 S..3.3ES2	T07
	level max	real measure s	

commutated turn-off time   **t_q**
                       t_q

The maximum time interval (in s) between the instant when the on-state current has decreased to zero after external switching of the anode-cathode voltage and the instant when the specified on-state voltage which the thyristor is capable of supporting without turning on, passes through zero with a specified rate of rise of on-state voltage.

AAE683-005 = temperature type
AAE684-005 = rate of rise of on-state curr
AAE685-005 = temperature
AAE727-005 = rate of rise of off-state volt
AAE733-005 = on-state current
AAE737-005 = off-state voltage

IEC 60747-6 (2000)

AAE748-005	02	NR3 S..3.3ES2	E01
	level min	real measure A	

cathode-gate to cathode current   **I_GKT**
                       I_{GKT}

The minimum direct cathode-gate to cathode current (in A) that will trigger a tetrode thyristor at specified off-state voltage and junction temperature.

AAE271-005 = junction temperature
AAE737-005 = off-state voltage

AAE749-005	02	NR3 S..3.3ES2	E01
	level min	real measure A	

anode-gate to anode current **I_GAT**
                       I_{GAT}

The minimum anode-gate to anode current (in A) that will trigger a tetrode thyristor at specified off-state voltage, resistance between cathode-gate and gate, and junction temperature.

AAE271-005 = junction temperature
AAE737-005 = off-state voltage
AAE956-005 = resistance

AAE750-005	02	NR3 S..3.3ES2	E06
	level min	real measure V	

cathode-gate trigger voltage **V_GKT**
                       V_{GKT}

The minimum cathode-gate to cathode voltage (in V) that will trigger a tetrode thyristor at a specified off-state voltage and junction temperature.

AAE271-005 = junction temperature
AAE737-005 = off-state voltage

AAE751-005	02	NR3 S..3.3ES2	E06
	level min	real measure V	

anode-gate to anode voltage **V_GAT**
                       V_{GAT}

The minimum anode-gate to anode voltage (in V) that will trigger a tetrode thyristor at specified off-state voltage and junction temperature.

AAE271-005 = junction temperature
AAE737-005 = off-state voltage

AAE752-005	01	NR3..3.3ES2	K01
	level nom	real measure kg	

mass   **m**
                       m

The nominal mass (in kg) of a component.

AAE753-005 01   **NR3..3ES2**   **T03**
                level miNoMax   real measure
                                m

inside diameter   **d_in**
                            d_{in}

The value as specified by level (miNoMax) of the inside diameter (in m) of a component with a body of circular cross-section.

AAE754-005 02   **NR1..4**   **Q56**
                level nom   integer measure
                                1

number of terminals   **N_term**
number of pins N_{term}

The number of electrical terminals of an electric/electronic or electromechanical component.

AAE755-005 02   **NR3..3ES2**   **E44**
                level min   real measure
                                Ω

impedance   **|Z_S|**
                            $|Z_{S|}|$

The minimum value of the modulus of impedance (in ohms) of an inductor at specified frequency.

AAE029-005 = frequency

REMARKS:
Applies to beads threaded on a straight copper wire.

AAE756-005 02   **NR1..4**   **E44**
                level max   integer measure
                                dB

impedance decrease   **dDZ**
                            dDZ

The maximum decrease of the modulus of the impedance (in dB), of an inductor, relative to the modulus of impedance at frequency f_1, over a frequency range between specified frequencies (f_1 and f_2).

AAE963-005 = frequency f_1
AAE964-005 = frequency f_2

REMARKS:
Applies to wound six-hole beads.

AAE758-005 01   **NR3..3ES2**   **F03**
                level nom   real measure
                                Hz

frequency at Z_max   **f_Zmax**
                            f_{Zmax}

The nominal frequency (in Hz) at which the modulus of impedance of an inductor reaches its maximum value.

REMARKS:
Applies to wound six-hole beads.

AAE759-005 01   **X..3 A57**
                simple   non-quantitative code

coercivity class   **coercivity cl**

Code of the coercivity class of a magnetic part or magnetic material.

HRD = hard magnetic   (high coercivity)
SFT = soft magnetic   (low coercivity)

AAE760-005 03   **NR2..3.3**   **E36**
                level min   real measure
                                Ω/m

resistivity   **$r_r**
                            ρ_r

The minimum dc resistivity (in Ω/m) of a magnetic material.

AAE761-005 01   **NR1 S..4**   **H02**
                level min   integer measure
                                Cel

Curie temperature   **T_C**
Curie point T_C

The minimum temperature (in Cel) below which a magnetic material is ferromagnetic or ferrimagnetic and above which it is paramagnetic.

NOTE
The change of state is not perfectly sharp, so the above definition may not give a value sufficiently defined for practical purposes. To get a more definite value, the graph of the square of the specific saturation magnetisation (i.e. $sigma^2$) as a function of temperature should be extrapolated to $sigma^2 = 0$. The Curie point may then be taken as the point where this extrapolation meets the temperature axis.

IEC 60050(221) (1990)

AAE762-005 01   **M..8**   **A57**
     simple   string

hard magnetic material grade hard mat grade

Code of the grade of hard magnetic material according to the manufacturer.

REMARKS:
The material grade code may be used to refer to the magnetic characteristics of a hard magnetic part.

AAE764-005 01   **M..8**   **A57**
     simple   string

soft magnetic material grade soft mat grade

Code of the grade of soft magnetic material according to the manufacturer.

REMARKS:
The material grade code may be used to refer to the magnetic characteristics of a soft magnetic part.

AAE765-005 01   **M..17**   **A58**
     simple   string

core size code   **core size code**

Code of the shape and size of the core or core halves of a soft magnetic part.

REMARKS:
Code composition:

E-cores :	letter E followed by nominal length/width in mm
EC-cores :	letters EC followed by nominal length in mm
ETD-cores :	letters ETD followed by nominal length in mm
P-cores :	letter P followed by nominal outer diameter/nominal length in mm
RM-cores :	letters RM followed by nominal sidelength of base square in mm
X-cores :	letter X followed by nominal sidelength of base square in mm

Code extension.
Codes may be extended by adding other nominal e.g. height and width.

AAE766-005 01   **M..3**   **A58**
     simple   non-quantitative code

core shape   **core shape**

Code of the shape of a soft magnetic part, or set of parts forming a core.

E	= E-core	(half)
EC	= EC-core	(half)
EP	= EP-core	(set)
ETD	= ETD-core	(half)
H	= H-core	(set, together with window- or U-core)
I	= I-core	(part)
IMP	= impeder	
MHC	= multi-hole-core	
P	= P-core	(set)
PH	= PH-core	(half)
R	= ring-core	
RM	= square-core	(set)
ROD	= rod	
TUB	= tube	
U	= U-core	(half)
X	= X-core	(set)
YKR	= yoke-ring	

REMARKS:
For core halves the effective core parameter DETs AAE770-005, AAE771-005, AAE776-005, AAE777-005, AAE782-005 and AAF283-005 are determined in combination with an identical counterpart for I-cores in combination with a U-core.

AAE767-005 01   **NR1..4**   **E17**
     simple   integer measure
     A/m

peak magnetic field strength@H_peak
     @H_{peak}

The peak magnetic field strength (in A/m) applied to a magnetic material, as a variable.

AAE768-005 01   **NR3..3.3ES2**   **E19**
     simple   real measure
     T

peak flux density   **@B_peak**
peak magnetic flux density   @B_{peak}

The peak magnetic flux density (in T) applied to a magnetic material, as a variable.

AAE769-005 01   NR3..3.3ES2   E19
    level minTypMax   real measure
                T

magnetic flux density   B
magnetic induction   B

The value as specified by level (minTypMax) of the
magnetic flux density (in T) of a soft magnetic
material at specified frequency, ambient temperature
and peak magnetic field strength.

AAE014-005 = ambient temperature
AAE029-005 = frequency
AAE768-005 = peak flux density

AAE770-005 01   NR3..3.3ES2   E22
    level minTypMax   real measure
                H

inductance factor   A_L
                    A_L

The value as specified by level (minTypMax) of the
inductance (in H) of a coil placed on a soft magnetic
part, divided by the square of the number of turns, at
specified frequency, ambient temperature and peak
flux density.

AAE014-005 = ambient temperature
AAE029-005 = frequency
AAE768-005 = peak flux density

$$A_L = \frac{L}{N^2}$$

where L is the inductance of the coil when placed on
the core and N is the number of turns on the coil.

IEC 60050 (221) (1990)

AAE771-005 02   NR1..4   E25
    level minTypMax integer measure
                1

effective permeability $m_e
                  μ_e

The value as specified by level (minTypMax) of the
effective permeability of a soft magnetic part at
specified frequency, ambient temperature and peak
flux density.

NOTE
Applies to non-homogeneous cores, e.g. cores with
an air gap.

AAE014-005 = ambient temperature
AAE029-005 = frequency
AAE768-005 = peak flux density

IEC 60050 (221) (1990)

AAE772-005 02   NR1..4   E25
    level minTypMax integer measure
                1

initial permeability $m_i
                  μ_i

The value as specified by level (minTypMax) of the
limiting value of the amplitude permeability of a soft
magnetic material when the magnetic field strength
tends to zero.

$$\mu_i = \lim_{H \to 0} \mu_a$$

IEC 60050 (221) (1990)

AAE773-005 02   NR1..4   E25
    level minTypMax integer measure
                1

amplitude permeability $m_a
                  μ_a

The value as specified by level (minTypMax) of the
relative permeability of a soft magnetic material,
obtained from the peak value of the flux density and
the applied alternating field strength, at specified
frequency, ambient temperature and peak magnetic
flux density.

NOTES
1 The peak values apply to the actual waveforms.
2 The material is assumed to be in a cyclic magnetic
condition.

AAE014-005 = ambient temperature
AAE029-005 = frequency
AAE768-005 = peak flux density

$$\mu_a = \frac{1}{\mu_0} \cdot \frac{B_{peak}}{H_{peak}}$$

IEC 60050 (221) (1990)

AAE775-005 01   NR2..3.3   H07
    level max   real measure
                W

total power loss   P_tot
power loss P_{tot}

The maximum total power loss (in W) of a soft
magnetic part at specified frequency, ambient
temperature and peak flux density.

NOTE
The total loss may include: eddy current loss,
hysteresis loss, rotational hysteresis loss, residual
loss, gyromagnetic resonance loss.

AAE014-005 = ambient temperature
AAE029-005 = frequency
AAE768-005 = peak flux density

IEC 60050 (221) (1990)

AAE776-005 01 NR2..3.3 T03
        level nom   real measure
                   m

effective magnetic path length l_e
                     l_e

The nominal effective magnetic path length (in m) of a soft magnetic part.

NOTE This is the magnetic path length of a hypothetical equivalent toroidal core of the same material properties.

$$l_e = \frac{C_1^2}{C_2}$$

where C_1 is the core factor C_1 (AAE777-005)

and $C_2 = \sum \frac{1}{A^2}$

IEC 60050 (221) (1990)

AAE777-005 01 NR2..3.3 T03
        level nom   real measure
                   m^{-1}

core factor C_1   **C_1**
core inductance parameter C_1

The nominal value (in m^{-1}) of the summation of the quotients of the elements of the magnetic path length over the corresponding cross-sectional areas (in m^{-1}) of a soft magnetic part.

$$C_1 = \sum \frac{1}{A}$$

IEC 60050 (221) (1990)

AAE778-005 01 NR2..3.3 T03
        level miNoMax real measure
                   m

(air) gap length   **l_gap**
gap length l_{gap}

The value as specified by level (miNoMax) of the length of the (air) gap (in m) in the magnetic circuit of a soft magnetic part.

AAE782-005 02 NR3..3.3ES2 T05
        level nom   real measure
                   m^2

effective cross-sectional area A_e
                     A_e

The nominal effective cross-sectional area (in m^2) of a soft magnetic part.

NOTE This is the cross-sectional area of a hypothetical equivalent toroidal core of the same material properties.

$$A_e = \frac{C_1}{C_2}$$

where C_1 is the core factor C_1 (AAE777-005)

and $C_2 = \sum \frac{1}{A^2}$

IEC 60050 (221) (1990)

AAE785-005 02 M..3 A56
        simple   non-quantitative code

signal type   **signal type**

Code of the type of signal applied to an electric, electronic or electromechanical component.

```
AUD  = audio
B/W  = **black and white
CHR  = ***chrominance
COL  = **colour
DATA = digital data
LUM  = ***luminance
MCH  = **monochrome
MON  = *mono
SPE  = *speech
STE  = *stereo
TV   = *television
VID  = video
```

AAE786-005 01 M..8 A56
        simple   non-quantitative code

mode of operation   **operation mode**

Code of the mode of operation of a function of an IC.

```
ASYN = asynchronous
BID  = bidirectional
DOWN = down
DUPL = duplex
PAR  = parallel
SER  = serial
SIMP = simplex
SYN  = synchronous
UNI  = unidirectional
UP   = up
```

AAE787-005	02	M..8	A56
	simple	non-quantitative code	

input/output characteristic   I/O char

Code of the input or output characteristic of a digital IC function.

3-ST	=	three-state
ADDRES	=	addressable
BUF	=	buffered
DARL	=	darlington
I2C	=	I2C-bus capability
INV	=	inverting
LTCH	=	latching
NONINV	=	non-inverting
O-COL	=	open collector
O-DRN	=	open drain
TOTEM	=	totem pole
UNBUF	=	unbuffered

AAE788-005	01	M..3	A56
	simple	non-quantitative code	

AD function   AD function

Code identifying an analogue/digital signal function of an IC.

ADC	=	analogue-digital converter
DAC	=	digital-analogue converter
SPS	=	speech synthesizer

AAE789-005	03	M..3	A56
	simple	non-quantitative code	

periodic/dc function   per/dc function

Code identifying a periodic or dc function of an IC.

MONO	=	**monostable
MOTDRI	=	motor drive
MPVD	=	*micro power voltage selector
OSC	=	*oscillator
PLL	=	*phase locked loop
POW	=	power supply
PPS	=	*power pack system
PUL	=	**pulse
REG	=	*regulator
SAW	=	**sawtooth
SH	=	**sample and hold
SIN	=	**sinewave
SMPS	=	*switch-mode power supply
SQUARE	=	**square wave (multivibrator)
STA	=	*stabilizer
TIM	=	timing

AAE790-005	04	M..8	A56
	simple	non-quantitative code	

CSI functions   CSI functions

Code of a combinatorial, sequential or interface function of an IC.

ADDER	=	*adder
ALU	=	*arithmetic logic unit
AND	=	*AND
ARITHM	=	arithmetic function
BCD	=	**BCD counter
BDR	=	*bus driver
BICNT	=	*binary counter
BIST	=	bistable trigger element (flip-flop)
BUF	=	buffer
BUS	=	*bus communication
CCONV	=	code converter
CNT	=	counter
COM	=	communication (involving a protocol)
COMP	=	comparator
D	=	*D-type
DDR	=	*display driver
DEC	=	*decoder
DECNT	=	*decade counter
DEMUX	=	*demultiplexer
DMAC	=	**DMA controller
DRI	=	driver
DSKC	=	*disk control
EDC	=	*error detection/correction
ENC	=	*encoder
GATE	=	gate
I2C	=	**I2C bus
INTC	=	*interrupt controller
INV	=	*inverter
JK	=	*JK-type
L	=	*latch-type
LACG	=	*look ahead carry generator
LAN	=	**local area network
LDR	=	*line driver
LSH	=	level shifter
MAC	=	*memory access controller
MM	=	*memory management
MUX	=	*multiplexer
NAND	=	*NAND
NOR	=	*NOR
OR	=	*OR
PARCH	=	*parity checker
REC	=	receiver
RS232	=	*RS232
SCH	=	Schmitt trigger
SEQ	=	sequencer
SR	=	*set/reset type
SUBTR	=	*subtractor
SWITCH	=	switch
TRANS	=	transceiver
UART	=	*UART
USART	=	*USART
VME	=	**VME bus
XNOR	=	*exclusive-NOR
XOR	=	*exclusive-OR

AAE804-005	01	NR2..3.3	T03
	level nom	real measure m	

screen curvature radius r_scr
face-plate radius r_{scr}

The nominal radius (in m) of the screen of a display tube at screen centre.

AAE805-005	01	NR3..3.3ES2	T03
	level nom	real measure m	

pixel pitch horizontal   p_pix
increment size p_{pix}

The nominal horizontal pitch (in m) of the pixels of a colour display tube, determined by the distance between identical phosphor stripes or dots on the screen.

AAE806-005	02	NR1..4	Q56
	level min	integer measure 1	

horizontal resolution   resolution H
resolution H

The minimum number of displayable pixels on the screen of a colour display tube in the horizontal direction.

AAE816-005	02	M..17	A58
	simple	string	

optoelectronic package opt package
envelope

Code of the encapsulation of an optoelectronic device.

AAE834-005	01	M..175	A62
	simple	string	

component description description

Description of a component according to the manufacturer.

REMARKS:
Additional to the structured data in other data elements, free text description.

AAE838-005	01	M..17	A58
	simple	string	

IC package code   IC package code
envelope code

Code of the package of an IC.

AAE839-005	01	M..8	A56
	simple	non-quantitative code	

driving method   MUX ratio
driving mode
multiplex ratio

Code of addressing the liquid crystal display, i.e. the number of segments (with dot matrix displays, the picture elements or pixels) that are connected together, and is given in a ratio value.

```
0.086111111    = 64
0.111111111    = 100
0.180555556    = 200
0.208333333    = 240
01:01          = DD = direct drive
01:02          = 2
01:03          = 3
01:04          = 4
01:08          = 8
01:16          = 16
01:32          = 32
```

REMARKS:
1. The number of common electrodes or segments per group determines the multiplex ratio. When the number of segments is n and the multiplex ratio is M then the number of connections used is n/M + M against n + 1 for direct drive.
2. Multiplex drive is when several electrodes of the segments and those of the back-planes are connected together.

AAE840-005	01	M..3	A56
	simple	non-quantitative code	

quality grade   quality grade

Code of the quality grade (determined by the permissible storage temperature range) of a liquid crystal display.

10   = commercial grade =
         from -25 Cel to +70 Cel.
20   = extended grade =
         from -40 Cel to +90 Cel.

AAE841-005	01	NR1 S..4		H02
	level minMax	integer measure		
		Cel		

storage temperature **T_stg**
T_{stg}

The value as specified by level (minMax) of the permissible storage temperature (in Cel) of a component.

AAE842-005	02	NR2 S..3.3		E06
	simple	real measure		
		V		

operating voltage **@V_oper**
drive voltage $@V_{oper}$

The peak-to-peak value of the ac square wave voltage (in V) applied to a liquid crystal display, as a variable.

AAE843-005	01	NR2 S..3.3		E06
	level max	real measure		
		V		

dc voltage component **V_dc**
V_{dc}

The maximum limiting value of the dc component (in V) of the voltage of a liquid crystal display.

AAE844-005	02	NR2 S..3.3		F03
	level minTypMax	real measure		
		Hz		

drive frequency **f_drv**
f_{drv}

The value as specified by level (minTypMax) of the frequency (in Hz) of the drive ac voltage of a liquid crystal display at a specified driving method.

AAF264-005 = driving method

AAE845-005	02	NR2 S..3.3		E01
	level minTypMax	real measure		
		A/m^2		

specific current consumption I_s
activated display area current I_s

The value as specified by level (minTypMax) of the specific current consumption (in A/m^2) of the activated display area of a liquid crystal display at specified driving method, drive frequency of 32 Hz, typical value of the operating voltage and an ambient temperature of 25 Cel.

AAF264-005 = driving method

AAE846-005	03	NR3..3.3ES2	T07
	level minTypMax	real measure	
		s	

turn-on time **t_on**
t_{on}

The value as specified by level (minTypMax) of the time (in s) elapsing between the start (10 %) of the input pulse train and the moment the corresponding luminance is 90 % of its maximum value, of a liquid crystal display at specified driving method, typical operating voltage, drive frequency of 32 Hz and a specified ambient temperature.

AAE014-005 = ambient temperature
AAF264-005 = driving method

REMARKS:
t_{on} is the time elapsing between the start of the input pulse train and the moment when the corresponding luminance is 90 % of its maximum value.
t_{on} is also the sum of t_d, or $t_{d(on)}$, and t_r (t_d being the delay time and t_r being the rise time).

AAE847-005	03	NR3..3.3ES2	T07
	level minTypMax	real measure	
		s	

turn-off time **t_off**
t_{off}

The value as specified by level (minTypMax) of the time (in s) elapsing between the end (90 %) of the input pulse train and the moment the corresponding luminance has dropped to 10 % of its maximum value, of a liquid crystal display at a specified driving method, typical operating voltage, drive frequency of 32 Hz and a specified ambient temperature.

AAE014-005 = ambient temperature
AAF264-005 = driving method

REMARKS:
t_{off} is the time elapsing between the end of the input pulse train and the moment when the corresponding luminance has dropped to 10 % of its maximum value.
t_{off} is also the sum of t_s, or $t_{d(off)}$, and t_f (t_s being the storage time and t_f being the fall time).

AAE848-005 04   **NR2..3.3**   **L32**
          level min   real measure
                        1

contrast ratio   **CNR**
brightness contrast ratio   CNR
luminance contrast ratio L_{ctr}

The minimum guaranteed value of the maximum obtainable ratio between the brightness of the light areas to the brightness of the dark areas of a liquid crystal display at specified values of the operating voltage, ambient temperature and viewing angle.

AAE014-005 = ambient temperature
AAE842-005 = operating voltage
AAE993-005 = viewing angle

REMARKS:
The ratio is always a value greater than one. This means that, for a negative image mode, it is the ratio of the brightness of an addressed display zone to the brightness of a non-addressed zone and, for a positive image mode, it is the ratio of the brightness of the non-addressed zone to that of the addressed zone.

AAE849-005 01   **M..3**   **A58**
          simple   non-quantitative code

display construction   **display constr**
layout construction

Code denoting the layout and construction of a liquid crystal display.

A = alphanumeric
B = multifunctional
D = segment
G = dot-matrix display
M = segments
N = alphanumeric display
P = multifunctional display
R = segment display
S = alphanumeric display
T = dot-matrix display
U = multifunctional display
V = multifunctional display
W = dot-matrix display
Z = shutter

AAE850-005 01   **NR3..3.3ES2**   **T03**
          level nom   real measure
                        m

character length   **l_char**
                              l_{char}

The nominal length (in m) of a character of a liquid crystal display module.

REMARKS:
The length is measured in the horizontal direction.

AAE851-005   01   **NR3..3.3ES2**   **T03**
          level nom   real measure
                        m

character height   **h_char**
                              h_{char}

The nominal height (in m) of a character of a liquid crystal display module.

REMARKS:
The height is measured in the vertical direction.

AAE852-005 01   **NR3..3.3ES2**   **T03**
          level nom   real measure
                        m

dot length   **l_dot**
                        l_{dot}

The nominal length (in m) of a dot of a liquid crystal display module.

REMARKS:
The length is measured in the horizontal direction.

AAE853-005 01   **NR3..3.3ES2**   **T03**
          level nom   real measure
                        m

dot height   **h_dot**
                        h_{dot}

The nominal height (in m) of a dot of a liquid crystal display module.

REMARKS:
The height is measured in the vertical direction.

AAE854-005 01   **NR3..3.3ES2**   **T03**
          level miNoMax real measure
                        m

viewing area length   **l_view**
                                 l_{view}

The value as specified by level (miNoMax) of the length (in m) of the viewing area of a liquid crystal display module.

REMARKS:
The length is measured in the horizontal direction.

AAE855-005 01   **NR3..3.3ES2**   **T03**
        level miNoMax   real measure
        m

viewing area height   **h_view**
                           h_{view}

The value as specified by level (miNoMax) of the
height (in m) of the viewing area of a liquid crystal
display module.

REMARKS:
The height is measured in the vertical direction.

AAE856-005 01   **M..3**   **A58**
        simple   non-quantitative code

illumination mode   **illum mode**
lighting mode

Code of the illumination and image mode of a liquid
crystal display.

F   = transflective, positive
G   = transflective, negative
R   = reflective, positive
S   = reflective, negative
T   = transmissive, positive
U   = transmissive, negative

REMARKS:
The mode in which the relevant data are made
visible, viz:
  Reflective: ambient light reflected by a diffuse
                    reflector in the LCD.
  Transmissiv display lit from behind by an artificial
  e: light source.
  Transflectiv combination of both above.
  e:
  Positive: image is black and remaining
                    display area is grey when ON.
  Negative: image is grey and remaining display
                    area is black when ON.

AAE857-005 01   **NR1..4**   **K02**
        level minMax   integer measure
        %

operating humidity   **RH_amb**
                           RH_{amb}

The value as specified by level (minMax) of the
ambient humidity (in %) relative to saturation
humidity of a humidity sensor.

ISO 9346 (1987)

AAE858-005 01   **NR1..4**   **K02**
        level minMax   integer measure
        %

storage humidity   **RH_stg**
                        RH_{stg}

The value as specified by level (minMax) of the
storage ambient humidity (in %) relative to saturation
humidity of a humidity sensor.

ISO 9346 (1987)

AAE859-005 01   **NR1..4**   **K02**
        simple   integer measure
        %

relative humidity   **@RH**
                          @RH

The ambient humidity (in %) relative to saturation
humidity applied to a humidity sensor, as a variable.

NOTES
1 relative humidity: Actual humidity by volume,
divided by humidity by volume at saturation, at the
same temperature.
2 humidity by volume: Mass of water vapour divided
by the volume of the gaseous mixture.

ISO 9346 (1987)

AAE860-005 01   **NR3..3.3ES2**   **E09**
        level nom   real measure
        F

reference capacitance   **C_ref**
                           C_{ref}

The nominal capacitance (in F) of a capacitive
humidity sensor at reference conditions.

NOTE
Reference conditions are:
T_{amb} = 25 Cel
RH_{amb} = 43 %
Frequency   = 100 kHz

AAE861-005 02   **NR3..3.3ES2**   **E09**
        level miNoMax   real measure
        F

sensitivity   **s_H**
                         s_H

The value as specified by level (miNoMax) of the
ratio of capacitance change and ambient relative
humidity change (in F/%) in a range between
specified relative humidities (RH_1 and RH_2).

AAE953-005 = relative humidity RH_2
AAE954-005 = relative humidity RH_1

AAE862-005   02   NR2..3.3   E06
            level nom   real measure
                      (V/V)/(A/m)

open-circuit sensitivity s_open
                            s_{open}

The nominal value of the ratio of 1) the output voltage and 2) the product of the supply voltage and magnetic field in (V/V)/(A/m) of a semiconductor magnetic field sensor at specified ambient temperature.

AAE014-005 = ambient temperature

REMARKS:
Sensitivity of a magnetic field sensor at specified ambient temperature and expressed in (V/V)/(A/m)

AAE863-005 01   NR2 S..3.3   E17
           level minMax   real measure
                     A/m

magnetic field strength H
                           H

The value as specified by level (minMax) of the magnetic field strength (in A/m) of a magnetic field sensor.

AAE864-005 02   M..3   A56
          simple   non-quantitative code

pressure mode   pressure mode
application mode

Abbreviation of the application mode of a semiconductor pressure sensor.

ABS   = absolute
REL   = relative; pos/neg with respect to atmospheric pressure

AAE865-005 01   NR2..3.3   E06
          level nom   real measure
                    V/(V*Pa)

sensitivity   s
                          s

The nominal value of the ratio of 1) output voltage and 2) product of supply voltage and the pressure in V/(V*Pa) of a semiconductor pressure sensor at specified ambient temperature.

AAE014-005 = ambient temperature

AAE866-005 02   NR2 S..3.3   K15
          level minMax   real measure
                    Pa

operating pressure   P_oper
                        P_{oper}

The value as specified by level (minMax) of the pressure (in Pa) of a pressure sensor.

AAE867-005 01   NR2 S..3.3   E01
          level max   real measure
                    A

output current   I_open
                      I_{open}

The maximum dc output current (in A) of a semiconductor inductive proximity sensor at specified supply voltage.

AAE102-005 = supply voltage

AAE868-005 01   NR1 S..4   H02
          level minTypMax integer measure
                    Cel

substrate temperature   T_s
                      T_s

The value as specified by level (minTypMax) of the temperature (in Cel) of the substrate of an inductive proximity sensor.

AAE869-005 02   NR1..4   T03
          level minMax   integer measure
                    %

hysteresis in switching distance   H
differential travel   H
travel in switching distance

The value as specified by level (minMax) of the hysteresis (in %) of the switching distance of an inductive proximity sensor at specified supply voltage and ambient temperature.

AAE014-005 = ambient temperature
AAE102-005 = supply voltage

AAE870-005 01   NR3..3.3ES2   T03
          level nom   real measure
                    m

substrate length   L_s
                      L_s

The nominal total length (in m) of the substrate of an hybrid inductive proximity sensor.

AAE871-005 01   **NR3..3.3ES2**   **T03**
     level nom   real measure
                 m

substrate width   **W_s**
                   W_s

The nominal total width (in m) of the substrate of an hybrid inductive proximity detector.

AAE872-005 02   **NR1..4**   **F03**
     level max   integer measure
                 Hz

operating frequency   **f_sw**
switching frequency f_{sw}

The maximum switching frequency (in Hz) of the input current, caused by an actuator that causes a switch-over at the output side of a hybrid inductive proximity sensor.

AAE874-005 01   **NR1..4**   **E33**
     level nom   integer measure
                 Ω

reference resistance   **R_Tref**
                   R_{Tref}

The nominal resistance (in ohms) of a semiconductor temperature sensor at a specified sensor current at the reference temperature.

AAE945-005 = current (dc)

REMARKS:
Some sensors are polarity-independent.

AAE875-005 03   **NR2..3.3**   **E33**
     level nom   real measure
                 1

resistance ratio R_Tamb/R_Tref
                   R_Tamb/R_Tref
                   R_{Tamb}/R_{Tref}

The nominal value of the ratio of the ohmic resistances of a temperature sensor at specified ambient temperature and its resistance at the reference temperature.

AAE014-005 = ambient temperature

AAE876-005 01   **NR2 S..3.3**   **H02**
     level nom   real measure
                 %/K

temperature coefficient TC
                   TC

The nominal reversible variation (in %/K) in the nominal resistance of a temperature sensor at reference temperature and specified sensor current.

AAE945-005 = current (dc)

AAE877-005 01   **M..3**   **A51**
     simple   non-quantitative code

working principle   **work principle**

Code of the working principle of a delay line.

EL   = electric
PE   = piezoelectric

AAE878-006 02   **M..8**   **A51**
     simple   non-quantitative code

delay line type   **delay line type**

Code of the type of a delay line.

ACT   = active
CAB   = cable
IC   = integrated circuit
PAS   = passive
SAW   = surface acoustic-wave
ULTRA   = ultrasonic

AAE879-005 01   **NR3..3.3ES2**   **E06**
     level max   real measure
                 dB

spurious signal level (3-tau) L_3$t
                   L_{3T}

The maximum level (in dB) of the spurious signal at the output terminals of a delay line measured at three times the delay time (tau) and relative to the one tau signal at the output terminals at the nominal frequency and at specified reference conditions.

NOTE Reflections are measured using a 5 us long input burst signal.

AAE995-005 = reference conditions

REMARKS:
The one tau signal is the first burst appearing at the output terminals of a delay line at nominal delay with respect to the input signal.

AAE880-005   02   NR3 S..3.3ES2   E06
level max   real measure
dB

spurious signal level   L_sig
L_sig

The maximum level (in dB) of the spurious signal at the output terminals of a delay line measured at five and more times the delay time (tau) relative to the one tau signal at the nominal frequency and at specified reference conditions.

NOTE
Reflections are measured using a 5 us long input burst signal.

AAE995-005 = reference conditions

REMARKS:
The one tau signal is the first burst appearing at the output terminals of a delay line at the nominal delay with respect to the input signal.

AAE885-005   02   NR3..3.3ES2   E43
level nom   real measure
deg

phase relation $f
phi

The nominal phase difference (in deg) of the output signal to the input signal of a delay line.

AAE886-005   02   NR3..3.3ES2   T07
level max   real measure
s

phase delay drift   t_drft
t_{drft}

The maximum phase delay drift (in s) of a delay line relative to the phase delay time at 25 Cel over the operating temperature range.

AAE887-005 02   NR1 S..4   E49
level miNoMax   integer measure
dB

insertion loss   insertion loss
insertion gain   insertion loss
transducer attenuation

The value as specified by level (miNoMax) of the insertion loss (in dB) of a delay line.

IEC 60050 (702) (1992)

REMARKS:
Insertion loss
The ratio, generally expressed in decibels, of the power at a point in a transmission path to the power at the same point after insertion of a two-port electrical network into the transmission path ahead of this point.
NOTE
If the ratio defining the insertion loss is less than one, its decibel value is negative, and its converse or opposite decibel value called 'insertion gain' may be used.

AAE888-005 01   NR3..3.3ES2   E06
level minMax   real measure
dB

spurious signal level (2-tau) spur 2$t
spur 2τ

The value as specified by level (minMax) of the spurious signal at the output terminals of a comb filter at twice the delay time (tau) and relative to one tau signal at the output terminals at the nominal frequency and at specified reference conditions.

NOTE
Reflections are measured using a 5 us long input burst signal.

AAE995-005 = reference conditions

REMARKS:
Bypassed delay line (used as comb filter).

AAE891-005 02   NR1 S..4   H02
level minMax   integer measure
Cel

ambient temperature   T_amb
category temperature T_{amb}
T_a

The value as specified by level (minMax) of the ambient temperature (in Cel) of a component.

AAE892-005 01   X..3   A56
simple   non-quantitative code

sensor input quantity   input quantity

Code of the physical quantity which a sensor converts into an electric signal.

HUM = relative humidity
LGT   = light
MGN = magnetic field strength
NCL   = nuclear
PRS   = pressure
PRX   = proximity
TMP   = temperature

AAE893-005 01   M..3   A56
simple   non-quantitative code

sensor working principle   work principle

Code of the principle of working of a sensor.

CAP = capacitive
IND   = inductive
MR   = magnetoresistive
SEM = semiconductor
TUB = electron tube

AAE895-005 01   NR3 S..3.3ES2   E01
simple   real measure
A

input current   @I_in
$@I_{in}$

The dc input current (in A) of an IC, as a variable.

AAE896-005 02   NR3 S..3.3ES2   E01
level max   real measure
A

quiescent current   I_q
quiescent supply current I_q
I_{CC}
I_{DD}

The maximum guaranteed total quiescent dc supply current (in A) of a CMOS or HCMOS digital IC, at specified supply voltage, zero output current and in a temperature range between specified temperatures (T_1 and T_2).

AAE102-005 = supply voltage
AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

REMARKS:
Total quiescent supply current per package.
All inputs must either be at zero (GND/V_{SS}) or at supply voltage level (V_{CC}/V_{DD}).

AAE897-005 02   NR3 S..3.3ES2   E01
level max   real measure
A

additional quiescent current $DI_CC
additional q-supply current ΔI_{CC}
delta I_CC per input   AQSC

The maximum guaranteed additional quiescent dc supply current (in A) per input, of an HCMOS IC, at specified supply voltage, zero output current and a temperature range between specified temperatures (T_1 and T_2).

AAE102-005 = supply voltage
AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

REMARKS:
Applies to a sub-category of HCMOS circuits with TTL compatible inputs.
Except for the relevant input, to which a voltage of V_{CC} – 2.1 V (V_{OH} for TTL) must be applied, all other inputs must be either be at zero (GND/V_{SS}) or at supply voltage level (V_{CC}).

AAE898-005 01   NR3..3.3ES2   E09
level minTypMax   real measure
F

input capacitance   C_in
C_{in}

The value as specified by level (minTypMax) of the capacitance (in F) at the input of an IC.

AAE899-005 01   NR3 S..3.3ES2   E01
level max   real measure
A

HIGH-state input current   I_IH
HIGH-level input current I_{IH}

The maximum guaranteed HIGH-state dc input current (in A), of a TTL digital function of an IC, at the maximum supply voltage and specified input voltage and in a temperature range between specified temperatures (T_1 and T_2).

AAE224-005 = input voltage
AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

AAE900-005	01	NR3 S..3.3ES2	E01
	level max	real measure A	

LOW-state input current I_IL
LOW-level input current I_{IL}

The maximum guaranteed LOW-state dc input current (in A), of a TTL digital function of an IC, at the maximum supply voltage, specified input voltage and in a temperature range between specified temperatures (T_1 and T_2).

AAE224-005 = input voltage
AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

AAE901-005	01	NR3 S..3.3ES2	E01
	level max	real measure A	

HIGH-state supply current   I_CCH
supply current I_{CCH}

The maximum guaranteed total HIGH-state dc supply current (in A), of a TTL digital IC, at the maximum supply voltage.

REMARKS:
Total HIGH-state supply current per package.
Appropriate input signals (V_{IH} and/or V_{IL}) must be applied to obtain a HIGH-state at all outputs.

AAE902-005	01	NR3 S..3.3ES2	E01
	level max	real measure A	

LOW-state supply current   I_CCL
supply current I_{CCL}

The maximum guaranteed total LOW-state dc supply current (in A) of a TTL digital IC at the maximum supply voltage.

REMARKS:
Total LOW-state supply current per package.
Appropriate input signals (V_{IH} and/or V_{IL}) must be applied to obtain a LOW-state at all outputs.

AAE903-005	02	NR3 S..3.3ES2	E01
	level max	real measure A	

off-state supply current I_CCZ
supply current I_{CCZ}

The maximum guaranteed total off-state dc supply current (in A), of a 3-state TTL digital IC, at the maximum supply voltage and in a temperature range between specified temperatures (T_1 and T_2).

AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

REMARKS:
Total off-state supply current per package.
Appropriate disabling signals must be applied to the relevant inputs.

AAE904-005	02	NR3..3.3ES2	T07
	simple	real measure s	

fall time   @t_f
  $@t_f$

The fall time (in s) of a step function change (90 % to 10 %) of a signal applied to an electric-electronic or electromechanical component, as a variable.

AAE905-005	01	NR3..3.3ES2	H07
	level min	real measure W/K	

dissipation derating factor   P_der
  P_{der}

The minimum required power dissipation derating factor (in W/K) of an electric-electronic or electromechanical component, at ambient temperatures higher than the rated temperature.

AAE906-005	01	NR3..3.3ES2	E33
	simple	real measure Ω	

base-emitter resistance @R_BE
  $@R_{BE}$

The resistance (in ohms) connected between base and emitter terminals of a bipolar transistor, as a variable.

AAE907-005 01   **M..3**   **A52**
          simple   non-quantitative code

stability   **stability**

Code of the condition of a relay after the energising
quantity is removed.

BIS   = bistable
MON   = monostable

AAE911-005 01   **NR3..3ES2**   **E01**
          level nom   real measure
                      A

energising current (dc) I_in(dc)
                        $I_{in(dc)}$

The nominal dc current (in A) which, when applied to
the coil of a relay, enables it to operate at the
reference temperature.

IEC 61810-1 (1998)

AAE912-005 01   **NR3..3ES2**   **E01**
          level nom   real measure
                      A

energising current (ac) I_in(ac)
                        $I_{in(ac)}$

The nominal ac current (in A) which, when applied to
the coil of a relay, enables it to operate at the
reference temperature.

IEC 61810-1 (1998)

AAE915-005 01   **NR3..3ES2**   **E06**
          level nom   real measure
                      V

energising voltage (dc) U_in(dc)
                        $U_{in(dc)}$

The nominal dc voltage (in V) which, when applied to
the coil of a relay, enables it to operate.

IEC 61810-1 (1998)

AAE916-005 01   **NR3..3ES2**   **E06**
          level nom   real measure
                      V

energising voltage (ac) U_in(ac)
                        $U_{in(ac)}$

The nominal ac voltage (in V) which, when applied to
the coil of a relay, enables it to operate.

IEC 61810-1 (1998)

AAE918-005 01   **NR3..3ES2**   **E09**
          level max   real measure
                      F

coil-contact capacitance   C_cl(cont)
                        $C_{cl(cont)}$

The maximum parasitic capacitance (in F) between a
contact member and the coil of a relay.

AAE919-005 01   **NR3..3ES2**   **E09**
          level max   real measure
                      F

contact capacitance   C_cont
                        C_{cont}

The maximum parasitic capacitance (in F) between
two contact members of a relay.

AAE920-005 02   **NR3..3ES2**   **E33**
          level max   real measure
                      Ω

contact resistance   R_cont
contact-circuit resistance R_{cont}

The maximum resistance (in ohms) of a mated set of
contacts of a connector, relay or switch.

NOTE
Measuring procedure according to IEC 61810-7
(1997)

IEC 60050 (581) (1978)

AAE921-005 02   **NR1..4**   **Q56**
          level nom   integer measure
                      1

number of contact assemblies N_cont(assy)
number of poles $N_{cont(assy)}$

The number of contact assemblies of a relay or
switch.

AAE922-005 03   **NR3..3ES2**   **Q59**
          level min   real measure
                      1

mechanical life   N_cycl
                        N_{cycl}

The minimum guaranteed number of operating
cycles of a relay or switch without electric load.

NOTE
After the test the contact resistance shall be within
its tolerance.

AAE923-005	02	NR3..3.3ES2	T07
	level max	real measure	
		s	

operate time   **t_oper**
                                   t_{oper}

The maximum time (in s) between the instant the energising power is applied and the instant the relay completes the specified function.

IEC 61810-1-00 (1998)

AAE924-005	02	NR1 S..4	T07
	level max	integer measure	
		s	

release time   **t_rel**
                                 t_{rel}

The maximum time (in s) between the instant the energising quantity is applied and the instant when the relay resets.

IEC 61810-7 (1997)

REMARKS:
A relay releases when it changes from its operate condition to its release condition.

| AAE925-005 | 01 | M..8 | A56 |
| | simple | non-quantitative code | |

contact member force   **contact force**

Code of the kind of force applied to the contact member of a relay.

EM   = electromechanical relay
REED = reed (magnetic)
THER = thermal electrical relay

| AAE926-005 | 01 | X..3 | A56 |
| | simple | non-quantitative code | |

actuating quantity   **actuating qnty**

Code of the actuating quantity of a switch.

MEC = mechanical switch
REE = reed switch
THE = thermostatic switch

AAE928-005	02	NR2..3.3	E49
	level max	real measure	
		VA	

contact power (ac)   **P_cont(ac)**
                                 $P_{cont(ac)}$

The maximum switching apparent power (in VA) as a product of the actual ac contact voltage and the actual ac contact current applied in combination to a switch or relay at resistive load.

REMARKS:
The apparent power is less then the product of contact current and contact voltage.

AAE929-005	02	NR1..4	Q56
	level nom	integer measure	
		1	

number of stable positions   **N_stab**
stable positions N_{stab}

The number of stable positions of a switch.

AAE930-005	02	NR1 S..4	T07
	level max	integer measure	
		s	

bounce time   **t_bnc**
                                 t_{bnc}

The maximum time interval (in s) between the instant when the contact circuit first closes (opens) and the instant when the circuit is finally closed (opened) of a relay or switch.

IEC 60050 (446) (1983)

| AAE931-006 | 01 | M..8 | A56 |
| | simple | non-quantitative code | |

switch actuation   **actuation**

Code of the actuator of a mechanical switch.

CORD   = cord-operated
LEVER   = lever/toggle
MEM   = membrane
PULL   = push-pull
PUSH   = push-button
ROCKER = rocker button
ROTARY = rotary
SLIDE   = slide
TUMBLE = tumbler

| AAE932-005 | 02 | NR2..3.3 | K09 |
| | level nom | real measure N | |

actuating force   **F_act**
                               F_{act}

The operating nominal force (in N) on the actuator of a mechanical switch to cause it to change position.

IEC 60050 (581) 1978)

| AAE933-005 | 01 | NR3..3.3ES2 | E01 |
| | simple | real measure A | |

current (ac)   **@I_ac**
                               $@I_{ac}$

The rms sinusoidal current (in A) applied to an electric-electronic or electromechanical component, as a variable.

| AAE934-005 | 01 | NR3..3.3ES2 | F03 |
| | simple | real measure Hz | |

bandwidth   **@B**
                               $@B$

The range of frequencies (in Hz) applied to a electric/ electronic or electromechanical component, as a variable.

REMARKS:
See also AAE963-005 AND AAE964-005

| AAE935-005 | 01 | NR3..3.3ES2 | F03 |
| | simple | real measure Hz | |

chopping frequency   **@f_chop**
                               $@f_{chop}$

The number of interruptions (in Hz) of a light beam at regular intervals, applied to an optoelectronic device, as a variable.

| AAE936-005 | 02 | NR2..3.3 | E44 |
| | simple | real measure Ω | |

source impedance   **@|Z_S|**
                               $@|Z_{S|}$

The modulus of the complex impedance (in ohms) of a source connected to the input of an electric-electronic or electromechanical component, as a variable.

| AAE937-005 | 01 | NR3..3.3ES2 | T03 |
| | simple | real measure m | |

tie-point distance   **@s_tp-body**
                               $@s_{tp-body}$

The distance (in m) measured along the leads from tie point to the body of a diode, as a variable.

| AAE938-005 | 02 | NR2..3.3 | E44 |
| | simple | real measure Ω | |

load impedance   **@|Z_L|**
                               $@|Z_{L|}$

The modulus of the complex impedance (in ohms) of a load connected to the output of an electric-electronic or electromechanical component, as a variable.

| AAE940-005 | 02 | NR1..4 | Q56 |
| | level nom | integer measure 1 | |

number of cells in series **N_cell**
                               N_{cell}

The actual number of cells in the series of a battery.

| AAE941-005 | 02 | NR2..3.3 | E06 |
| | level max | real measure V | |

voltage during charge   **V_chrg**
                               V_{chrg}

The maximum voltage (in V) of a secondary battery during charge with a constant current of 0,1 times the value of the nominal capacity.

IEC 60050 (482) (2004)

| AAE942-005 | 02 | NR3..3.3ES2 | T07 |
| | level min | real measure d | |

storage life   **t_stg**
shelf life t_{stg}

The minimum duration of storage (in d) at specified ambient temperature at the end of which a cell or battery retains 80 % of its original capacity.

AAE014-005 = ambient temperature

IEC 60050 (482) (2004)

AAE943-005	03	NR3..3.3ES2	T07
	level minMax	real measure	
		s	

charge time   **t_chrg**
t_{chrg}

The value as specified by level (minMax) of the time (in s) after which a discharged secondary battery attains the fully charged state at specified ambient temperature and at specified direct current.

AAE014-005 = ambient temperature
AAE945-005 = current (dc)

IEC 60050 (482) (2004) derived

AAE944-005	02	NR1..4	Q56
	level max	integer measure	
		1	

number of charge cycles   **N_chrg**
cycle life N_{chrg}

The maximum number of charge/discharge cycles at the end of which the secondary battery retains 80 % of its nominal capacity at specified duration.

AAE028-005 = duration

AAE945-005	01	NR3..3.3ES2	E01
	simple	real measure	
		A	

current (dc)   **@I_dc**
$@I_{dc}$

The direct current (in A) applied to an electric, electronic or electromechanical component, as a variable.

AAE952-005	02	NR1..4	E01
	simple	integer measure	
		1	

dc current gain sat   **@h_FEsat**
forced gain $@h_{FEsat}$

The dc current gain in the saturation condition of a bipolar transistor, as a variable.

AAE953-005	01	NR1..4	K02
	simple	integer measure	
		%	

relative humidity RH_2   **@RH_2**
$@RH_2$

The upper relative humidity RH_2 of the humidity range applied to a humidity sensor, as a variable.

AAE954-005	01	NR1..4	K02
	simple	integer measure	
		%	

relative humidity RH_1   **@RH_1**
$@RH_1$

The lower relative humidity RH_1 of the humidity range applied to a humidity sensor, as a variable.

AAE955-005	03	NR2..3.3	E49
	simple	real measure	
		W	

output power   **@P_L**
load power $@P_L$

The output power (in W) of an electric-electronic or electromechanical component, as a variable.

IEC 60050 (713) (1998)

AAE956-005	01	NR3..3.3ES2	E33
	simple	real measure	
		Ω	

resistance   **@R**
$@R$

The resistance (in ohms) applied to the terminals of an electric-electronic component, as a variable.

AAE957-005	01	NR3..3.3ES2	E09
	simple	real measure	
		F	

capacitance   **@C**
$@C$

A value of a capacitance (in F) applied to the terminals of an electric, electronic or electromechanical component, as a variable.

AAE958-005 01   **NR1 S..4**   **H02**
            simple   integer measure
                            Cel

temperature T_1   **@T_1**
                            @T_1

The lower temperature T_1 (in Cel) of the temperature range applied to a component, as a variable.

REMARKS:
See AAE959-005 for upper temperature T_2. If T_2 is left blank the upper limit of the range is determined by the maximum operating temperature. Equal values of T_1 and T_2 may be used to indicate a single specific temperature.

AAE959-005 01   **NR1 S..4**   **H02**
            simple   integer measure
                            Cel

temperature T_2   **@T_2**
                            @T_2

The upper temperature T_2 (in Cel) of the temperature range applied to a component, as a variable.

REMARKS:
See AAE958-005 for lower temperature T_1. If T_1 is left blank the lower limit of the range is determined by the minimum operating temperature. Equal values of T_1 and T_2 may be used to indicate a single specific temperature.

AAE960-005 01   **NR3..3.3ES2**   **E01**
            level max   real measure
                            A

ripple current   **I_rppl**
                            I_{rppl}

The maximum rms alternating current (in A) of specified frequency which may be applied continuously to a fixed electrolytic capacitor at specified ambient temperature.

AAE014-005 = ambient temperature
AAE029-005 = frequency

AAE961-005 01   **NR2 S..3.3**   **E06**
            simple   real measure
                            V

voltage V_1   **@V_1**
                            @V_1

The lower voltage V_1 (in V) of the voltage range applied to an electric-electronic or electromechanical component, as a variable.

AAE962-005 01   **NR2 S..3.3**   **E06**
            simple   real measure
                            V

voltage V_2   **@V_2**
                            @V_2

The upper voltage V_2 (in V) of a voltage range applied to an electric-electronic or electromechanical component, as a variable.

AAE963-005 01   **NR3..3.3ES2**   **F03**
            simple   real measure
                            Hz

frequency f_1   **@f_1**
                            @f_1

The lower frequency f_1 (in Hz) of the frequency range applied to an electric-electronic or electromechanical component, as a variable.

AAE964-005 01   **NR3..3.3ES2**   **F03**
            simple   real measure
                            Hz

frequency f_2   **@f_2**
                            @f_2

The upper frequency f_2 (in Hz) of the frequency range applied to an electric-electronic or electromechanical component, as a variable.

AAE965-005 01   **M..8 A83**
            simple   non-quantitative code

component status   **status**

Code of the status of a component according to the manufacturer.

DEV   = development type
MAINT   = maintenance type
PROD   = production type or current type

AAE966-005	01	NR2..3.3	E01
	level max	real measure A	

average forward current I_F(AV)
$I_{F(AV)}$

The maximum average forward current (in A) of a rectifier diode or signal diode at specified temperature of a temperature type.

AAE683-005 = temperature type
AAE685-005 = temperature

AAE968-005	01	M..35	A56
	simple	string	

complementary type   complement type

Manufacturer's type number code of a transistor with reverse polarity, complementary to the transistor under consideration.

REMARKS:
NPN (N-channel) equivalent of a PNP (P-channel) transistor and vice versa.

AAE969-005	01	M..17	A55
	simple	string	

amplifier package   amp package
envelope

Code of the package of an amplifier.

AAE971-007	01	X..8	A56
	simple	non-quantitative code	

signal handling type   signal handling

Code of the signal handling type of a transistor.

POWT   = power signal transistor
SIGT   = small signal transistor

AAE973-005	01	M..8	A55
	simple	non-quantitative code	

FET-technology   FET technology

Code of the technology of a field-effect transistor.

JFET   = junction FET
MOSFET = metal oxide semiconductor FET

AAE974-005	02	NR2 S..3.3	E06
	level max	real measure 1	

input standing wave ratio   VSWR_in
$VSWR_{in}$

The maximum voltage standing wave ratio at the input of an amplifier at specified values of supply voltage, temperature of a temperature type and frequency range between specified frequencies (f_1 and f_2).

AAE102-005 = supply voltage
AAE683-005 = temperature type
AAE685-005 = temperature
AAE963-005 = frequency f_1
AAE964-005 = frequency f_2

REMARKS:
The source and load impedance are assumed to be equal to the characteristic impedance.

AAE975-005	02	NR2 S..3.3	E06
	level max	real measure 1	

output standing wave ratio   VSWR_out
$VSWR_{out}$

The maximum voltage standing wave ratio at the output of an amplifier at specified values of supply voltage, temperature of a temperature type and frequency range between specified frequencies (f_1 and f_2).

AAE102-005 = supply voltage
AAE683-005 = temperature type
AAE685-005 = temperature
AAE963-005 = frequency f_1
AAE964-005 = frequency f_2

REMARKS:
The source and load impedance are assumed to be equal to the characteristic impedance.

AAE976-005　02　　　　**NR3..3ES2**　　　**T07**
level minTypMax　　real measure
s

rise time　　　　　　　**t_r**
t_r

The value as specified by level (minTypMax) of the time (in s), measured between the 10 % value and the 90 % value of the drain current swing of a field-effect transistor at reference conditions.

AAE995-005 = reference conditions

REMARKS:
1. The internal generator resistance and gate-source resistance are assumed to be 50 Ω.
2. The reference conditions at specifying times for field-effect transistors are normally:
　　– drain-source voltage
　　– gate-source voltage
　　– drain current (dc)
　　– reference temperature

AAE977-005　02　　　　**NR3..3ES2**　　　**T07**
level minTypMax　　real measure
s

fall time　　　　　　　**t_f**
t_f

The value as specified by level (minTypMax) of the time (in s), measured between the 90 % value and the 10 % value of the drain current swing of a field-effect transistor at reference conditions.

AAE995-005 = reference conditions

REMARKS:
1. The internal generator resistance and the gate-source resistance are assumed to be 50 Ω.
2. The reference conditions at specifying times for field-effect transistors are normally:
　　– drain-source voltage
　　– gate-source voltage
　　– drain current (dc)
　　– reference temperature

AAE978-005　02　　　　**NR3..3ES2**　　　**T07**
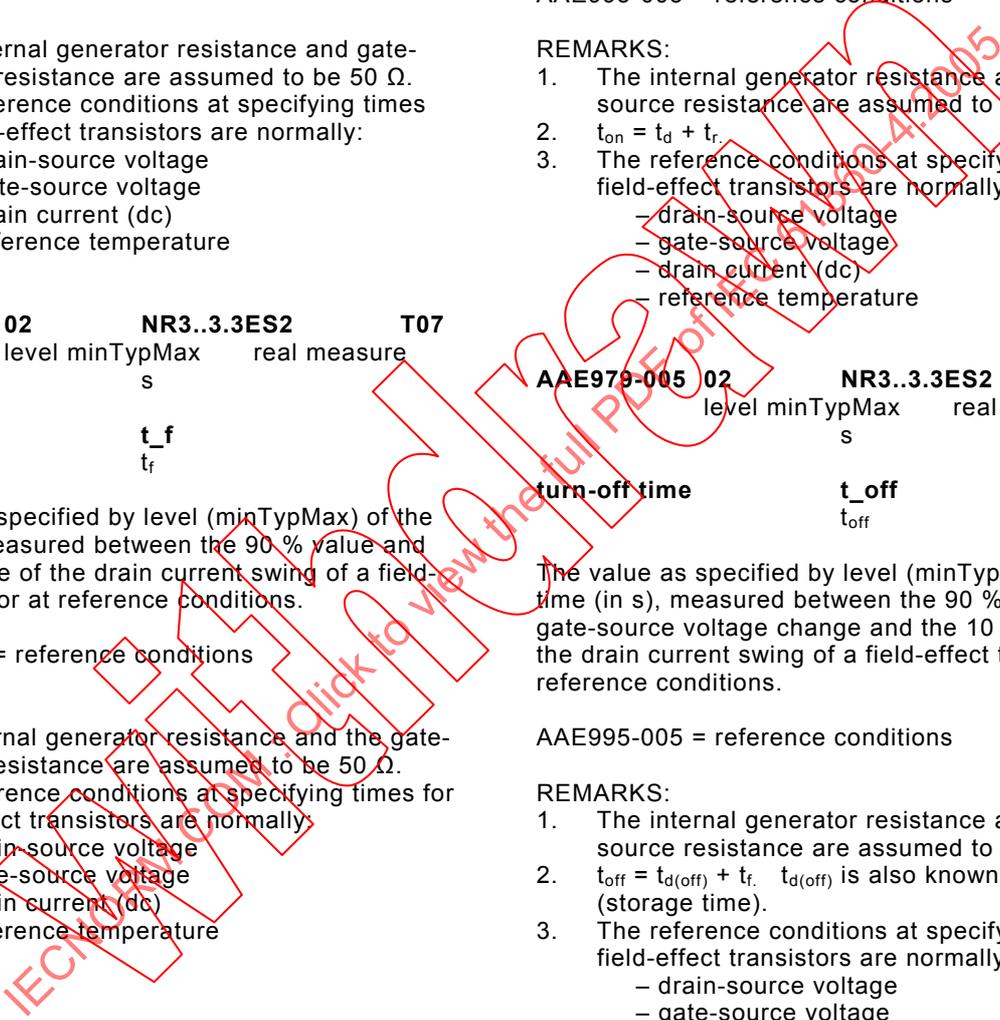level minTypMax　　real measure
s

turn-on time　　　　　**t_on**
t_{on}

The value as specified by level (minTypMax) of the time (in s), measured between the 10 % value of the gate-source voltage change and the 90 % value of the drain current swing of a field-effect transistor at reference conditions.

AAE995-005 = reference conditions

REMARKS:
1. The internal generator resistance and the gate-source resistance are assumed to be 50 Ω.
2. $t_{on} = t_d + t_r$.
3. The reference conditions at specifying times for field-effect transistors are normally:
　　– drain-source voltage
　　– gate-source voltage
　　– drain current (dc)
　　– reference temperature

AAE979-005　02　　　　**NR3..3ES2**　　　**T07**
level minTypMax　　real measure
s

turn-off time　　　　　**t_off**
t_{off}

The value as specified by level (minTypMax) of the time (in s), measured between the 90 % value of the gate-source voltage change and the 10 % value of the drain current swing of a field-effect transistor at reference conditions.

AAE995-005 = reference conditions

REMARKS:
1. The internal generator resistance and the gate-source resistance are assumed to be 50 Ω.
2. $t_{off} = t_{d(off)} + t_f$. $t_{d(off)}$ is also known as t_s (storage time).
3. The reference conditions at specifying times for field-effect transistors are normally:
　　– drain-source voltage
　　– gate-source voltage
　　– drain current (dc)
　　– reference temperature

AAE980-005 02   **NR3..3ES2**   **T07**
level minTypMax   real measure
s

delay (on) time   **t_d(on)**
$t_{d(on)}$
t_d

The value as specified by level (minTypMax) of the time (in s), measured between the 10 % value of the gate-source voltage change and the 10 % value of the drain current swing of a field-effect transistor at reference conditions.

AAE995-005 = reference conditions

REMARKS:
1. The internal generator resistance and gate-source resistance are assumed to be 50 Ω.
2. The reference conditions at specifying times for field-effect transistors are normally:
    – drain-source voltage
    – gate-source voltage
    – drain current (dc)
    – reference temperature

AAE981-005 02   **NR3..3ES2**   **T07**
level minTypMax   real measure
s

delay (off) time   **t_d(off)**
$t_{d(off)}$
t_s

The value as specified by level (minTypMax) of the time (in s), measured between the 90 % value of the gate-source voltage change and the 90 % value of the drain current swing of a field-effect transistor at reference conditions.

AAE995-005 = reference conditions

REMARKS:
1. The internal generator resistance and the gate-source resistance are assumed to be 50 Ω.
2. $t_{d(off)}$ is also known as t_s (storage time).
3. The reference conditions at specifying times for field-effect transistors are normally:
    – drain-source voltage
    – gate-source voltage
    – drain current (dc)
    – reference temperature

AAE982-005 03   **NR3..3ES2**   **E09**
level minTypMax   real measure
F

input capacitance   **C_iss**
short-circuit input capacitance C_{iss}

The value as specified by level (minTypMax) of the guaranteed capacitance (in F) between gate and source connections, with drain-source connections short-circuited for ac voltage, of a field-effect transistor at specified frequency, drain-source voltage, and gate-source voltage.

AAE029-005 = frequency
AAE376-005 = drain-source voltage
AAE381-005 = gate-source voltage

IEC 60747-8 (2000)

AAE983-005 03   **NR3..3ES2**   **E09**
level minTypMax   real measure
F

output capacitance   **C_oss**
short-circuit output capacitance C_{oss}

The value as specified by level (minTypMax) of the guaranteed capacitance (in F) between drain and source connections, with gate-source connections short-circuited for ac voltage, of a field-effect transistor at specified frequency, drain-source voltage, and gate-source voltage.

AAE029-005 = frequency
AAE376-005 = drain-source voltage
AAE381-005 = gate-source voltage

IEC 60747-8 (2000)

AAE984-005 01   **NR3..3ES2**   **T03**
level nom   real measure
m

digit height   **h_dig**
h_{dig}

The nominal height (in m) of a digit of a liquid crystal display.

REMARKS:
The height is measured in the vertical direction.

AAE985-005 02   M..8   A62
            simple   non-quantitative code

connection method   connection

Code of the method of a connection to a liquid crystal display.

FIXPIN   = fixed pin
FOIL   = foil
RUBBER   = conductive rubber

AAE986-005 01   NR3..3.3ES2   T03
            level nom   real measure
                          m

dot spacing   dot spacing
                        dot spacing

The nominal space (in m) between two adjacent dots of a liquid crystal display module.

AAE987-005 02   NR3..3.3ES2   E49
            level max   real measure
                          W

power consumption   P_cons
                        P_{cons}

The maximum guaranteed power consumption (in W) of an electric/electronic or electromechanical component.

AAE989-005 01   M..17   A62
            simple   string

backlight   backlight

The product code of a backlight used with a liquid crystal display module.

AAE990-005 01   NR3..3.3ES2   E09
            level minTypMax   real measure
                          F/m^2

specific capacitance C_s
                        C_s

The value as specified by level (minTypMax) of the specific capacitance (in F/m^2) between segment and back-plane of a liquid crystal display at the typical operating voltage, drive frequency of 32 Hz, ambient temperature of 25 Cel and specified driving method.

AAF264-005 = driving method

AAE991-005 01   M..17   A58
            simple   non-quantitative code

preferred viewing direction view direction

Code of the viewing direction of a liquid crystal display.

10 o'clock = 150 deg in the plane of the LCD.
12 o'clock = 90 deg in the plane of the LCD.
3 o'clock   = 0 deg in the plane of the LCD.
5 o'clock   = 300 deg in the plane of the LCD.
6 o'clock   = 270 deg in the plane of the LCD.
9 o'clock   = 180 deg in the plane of the LCD.

REMARKS:
During the manufacturing process the orientation layers of an LCD can be treated so that a so-called preferred viewing direction can be built in. In this direction the display contrast is maximum. A 6 o'clock view means a preferred view from below (270 deg in the plane of the LCD), whereas a 12 o'clock (or 90 deg) preferred view implies a preference from above. The exact elevation angle is not taken into account.

AAE992-005 02   NR2 S..3.3   E06
            level minTypMax   real measure
                          V

operating voltage   V_oper
drive voltage V_{oper}

The value as specified by level (minTypMax) of the peak-to-peak ac square-wave voltage (in V) to be applied to a liquid crystal display, at specified driving method, drive frequency of 32 Hz and ambient temperature of 25 Cel.

AAF264-005 = driving method

AAE993-005 02   NR2..3.3   T01
            simple   real measure
                          deg

viewing angle   @$a_view
                        $@\alpha_{view}$

Angle (in deg) between viewing direction and the perpendicular to the plane of the liquid crystal display, as a variable.

AAE994-005	01	NR3..3.3ES2	E01
	simple	real measure	
		A	

reverse current　　　**@I_R**
　　　　　　　　　　　　　@I$_R$

The direct current (in A) flowing through a diode or optoelectronic device, in the reverse direction, as a variable.

| AAE995-005 | 02 | M..175 | A59 |
| | simple | string | |

reference conditions　　　**@reference cond**

Description of the reference conditions applied to a component as a variable.

NOTE
Reference conditions may be used when a number of characteristics are specified at a common set of conditions.

AAE996-005	02	NR1..4	Q56
	level nom	integer measure	
		1	

number of sections　　　**N_sect**
　　　　　　　　　　　　　N$_{sect}$

The number of sections of a capacitive antenna.

REMARKS:
Applies to extendible antennas.

AAE997-005	01	NR3..3.3ES2	T03
	level nom	real measure	
		m	

extended length　　　**l_ext**
　　　　　　　　　　　　l$_{ext}$

The nominal length (in m) of a capacitive antenna when all sections are in the extended position.

AAE998-005	01	NR3..3.3ES2	T03
	level nom	real measure	
		m	

non-extended length　　　**l_next**
　　　　　　　　　　　　　l$_{next}$

The nominal length (in m) of a capacitive antenna when all sections are in the non-extended position.

| AAF014-005 | 03 | M..8 A56 |
| | simple | non-quantitative code |

driving feature　　　**drive feature**

Code of the driving feature of a component.

```
CROSDR   = crossed recessed
HEX      = hexagon
HEXSKT   = hexagon socket
PHILL    = *phillips
POZI     = *pozidriv
SLOT     = slotted
SQUARE   = square
SUPA     = *supadriv
TORX     = torx
X        = **type X
```

REMARKS:
For electric-electronic components the values hexagon, crossed recessed and slotted are valid.

| AAF043-005 | 03 | M..35 | A61 |
| | simple | string | |

national standard　　　**nat standard**

Reference to a regional or national standard describing a component.

REMARKS:
```
AFNOR  = Association Francaise
         de Normalisation
ANSI   = American National Standards
         Institute
ASTM   = American Society for Testing
         and Materials
BEC    = Belgisch Elektrotechnisch Comite
BIN    = Belgisch Instituut voor Normalisatie
BSI    = British Standards Institution
CSA    = Canadian Standards Association
DIN    = Deutsches Institut fur Normung
MIL    = Military specification
NNI    = Nederlands Normalisatie Instituut
UL     = Underwriters Laboratories
UNE    = Instituto Nacional de
         Racionalizacion y Normalizacion
         (IRANOR)
UNI    = Ente Nazionale Italiana
         di Unificiazione
```

AAF044-005	02	NR3..3.3ES2	E44
	level nom	real measure	
		Ω	

output impedance　　　**|Z_out|**
　　　　　　　　　　　　　|Z$_{out|}$

The nominal value of the modulus of the output impedance (in ohms) of a filter at specified frequency.

AAE029-005 = frequency

IEC 60050 (131) (2002)

AAF045-005	02	NR2..3.3	K09
	level max	real measure	
		N	

engaging force   **F_eng**
insertion force F_{eng}

The maximum force (in N) required to engage a connector with its mating part.

NOTE
This force includes the effect of a coupling, locking or similar device.

IEC 60050 (581) (1978)

AAF046-005	02	NR2..3.3	K09
	level min	real measure	
		N	

separating force   **F_sep**
withdrawal force F_{sep}

The minimum force (in N) required to separate a connector from its mating part.

NOTE
This force includes the effect of a coupling, locking or similar device.

IEC 60050 (581) (1978)

| AAF047-005 | 02 | M..3 | A56 |
| | simple | non-quantitative code | |

screening   **screening**

Code of the screening of a transformer.

PRI = primary
SEC = secondary

AAF048-005	02	NR1..4	Q56
	level nom	integer measure	
		1	

number of primary coils N_pri(coil)
$N_{pri(coil)}$

The number of primary coils of a power transformer or relay.

AAF049-005	01	NR3..3.3ES2	F03
	level nom	real measure	
		m/s	

speed   **v_mot**
v_{mot}

The nominal speed (in m/s) of a linear motor.

AAF050-005	02	NR3..3.3ES2	E06
	level max	real measure	
		V	

release voltage (ac)   **U_rel(ac)**
$U_{rel(ac)}$

The maximum ac voltage (in V) at which an energised relay releases.

IEC 61810-7 (1997)

| AAF051-005 | 01 | M..8 | A58 |
| | simple | non-quantitative code | |

locking device   **locking device**

Code of the locking device of a connector.

BAYON = bayonet
SCREW = screw
SNAP   = snap (clic)

IEC 60050 (581) (1978)

AAF052-005	01	NR3..3.3ES2	F03
	level miNoMax	real measure	
		Hz	

resonance frequency   **f_rsn**
f_{rsn}

The value as specified by level (miNoMax) of the resonance frequency (in Hz) of an inductor.

AAF053-005	01	NR3..3.3ES2	T03
	level nom	real measure	
		m	

terminal length beside housing   **l_term**
l_{term}

The nominal length (in m) of that part of a terminal of a right angle or 45 degree connector that is beside the housing.

AAF055-005 02   NR3..3.3ES2   T07
level minTypMax   real measure
s

delay (off) time   t_d(off)
carrier storage time $t_{d(off)}$
                          t_s

The value as specified by level (minTypMax) of the time (in s), measured between the 90 % value of the input pulse and the 90 % value of the corresponding output pulse of a bipolar transistor at reference conditions.

AAE995-005 = reference conditions

REMARKS:
The reference conditions at specifying times for bipolar transistors are normally:
   – supply voltage
   – collector current
   – base current
   – reference temperature

AAF056-005 02   NR3..3.3ES2   T07
level minTypMax   real measure
s

delay (on) time   t_d(on)
delay time $t_{d(on)}$
                        t_d

The value as specified by level (minTypMax) of the time (in s), measured between the 10 % value of the input pulse which is switching-on the transistor, and the 10 % value of the corresponding output pulse of a bipolar transistor at reference conditions.

AAE995-005 = reference conditions

REMARKS:
The reference conditions at specifying times for bipolar transistors are normally:
   – supply voltage
   – collector current
   – base current
   – reference temperature

AAF057-005 02   NR3..3.3ES2   T07
level minTypMax   real measure
s

fall time   t_f
                          t_f

The value as specified by level (minTypMax) of the time (in s) required for the output pulse to fall from a stated high percentage (usually 90 %) to a stated lower percentage (10 %) of its maximum value, of a bipolar transistor at reference conditions.

AAE995-005 = reference conditions

REMARKS:
The reference conditions at specifying times for bipolar transistors are normally:
   – supply voltage
   – collector current
   – base current
   – reference temperature

AAF058-005 02   NR3..3.3ES2   T07
level minTypMax   real measure
s

rise time   t_r
                          t_r

The value as specified by level (minTypMax) of the time (in s) required for the output pulse to rise from a stated low percentage (usually 10 %) to a stated higher percentage (90 %) of its maximum value, of a bipolar transistor at reference conditions.

AAE995-005 = reference conditions

REMARKS:
The reference conditions at specifying times for bipolar transistors are normally:
   – supply voltage
   – collector current
   – base current
   – reference temperature

AAF059-005 02   NR3..3ES2   T07
level minTypMax   real measure
s

turn-off time   t_off
t_{off}

The value as specified by level (minTypMax) of the time (in s) elapsing between the end of the input pulse (at least 90 % of its maximum value) and the moment the corresponding output signal falls to 10 % of its maximum value, of a bipolar transistor at reference conditions.

AAE995-005 = reference conditions

IEC 60747-8 (2000)

REMARKS:
1. $t_{off} = t_s + t_f$.
2. The reference conditions at specifying times for bipolar transistors are normally:
    – supply voltage
    – collector current
    – base current
    – reference temperature

AAF060-005 02   NR3..3ES2   T07
level minTypMax   real measure
s

turn-on time   t_on
t_{on}

The value as specified by level (minTypMax) of the time (in s) elapsing between the start of the input pulse (usually 10% of its maximum value) and the moment the corresponding output signal is at least 90 % of its maximum value, of a bipolar transistor at reference conditions.

AAE995-005 = reference conditions

IEC 60747-8 (2000)

REMARKS:
1. $t_{on} = t_d + t_r$.
2. The reference conditions at specifying times for bipolar transistors are normally:
    – supply voltage
    – collector current
    – base current
    – reference temperature

AAF061-005 01   NR3..3ES2   T03
level nom   real measure
m

step length   l_step
l_{step}

The nominal length (in m) between adjacent step positions of a linear stepping motor.

AAF062-005 02   NR3..3ES2   K09
level max   real measure
N

holding force   F_hold
F_{hold}

The maximum steady force (in N) that can be externally applied to the armature of an excited linear stepping motor without causing continuous stepping.

AAF063-005 02   NR1..4   E01
simple   integer measure
A

rms on-state current   @I_T(RMS)
$@I_{T(RMS)}$

The rms on-state current (in A) flowing from the anode to the cathode in a thyristor or triac, as a variable.

IEC 60747-6 (2000)

AAF064-005 02   NR3..3ES2   L29
level minTypMax   real measure
W/sr

radiant intensity   I_e
I_e

The value as specified by level (minTypMax) of the radiant intensity (in W/sr) of an infrared emitting diode at specified forward current and temperature of a temperature type.

AAE274-005 = forward current
AAE683-005 = temperature type
AAE685-005 = temperature

AAF065-005 02   NR3..3ES2   L10
level typ   real measure
W

total radiant output power $f_e
radiant flux φ_e
                             P_{out}

The typical total radiant output power (in W) of an infrared emitting diode at specified forward current and temperature of a temperature type.

AAE274-005 = forward current
AAE683-005 = temperature type
AAE685-005 = temperature

AAF066-005 02   **NR3 S..3.3ES2**   **E06**
level min   real measure
V

collector-emitter breakdown voltage   V_(BR)CEO
$V_{(BR)CEO}$

The minimum breakdown voltage (in V) between collector and emitter terminals of a bipolar transistor or photocoupler when the collector terminal is biased in the reverse direction with respect to the emitter terminal and when the base terminal is open-circuited, at specified collector current and temperature of a temperature type.

AAE406-005 = collector current (dc)
AAE683-005 = temperature type
AAE685-005 = temperature

JESD 77B (2000)

REMARKS:
The collector terminal is considered to be biased in the reverse direction when it is made positive for NPN transistors or negative for PNP transistors with respect to the emitter terminal.

AAF090-005 02   **NR3..3.3ES2**   **E33**
level max   real measure
Ω

dc resistance   R_dc
R_{dc}

The maximum resistance to direct current (in ohms) of a coil of a wirewound component.

REMARKS:
Examples of wirewound components: inductor, moving conductor loudspeaker, motor, relay, transformer.

AAF096-005 01   **M..8**   **A59**
simple   non-quantitative code

stability test   @stab test

Code of the type of stability test to which a component is submitted.

CLIM   = climatic test
LOAD   = load test
OVERL   = short time overload

AAF097-005 02   **NR2..3.3**   **E33**
level max   real measure
%

stability after test   stability
stability

The ratio (in %) of a) the maximum difference of the resistance of a resistor before and after a specified test to b) the resistance before the test, according to document IEC 60115-1 (1999).

AAF096-005 = stability test

AAF098-005 01   **M..8**   **A51**
simple   non-quantitative code

power transformer application   application

Code indicating the application of a fixed power transformer.

DRI   = line deflection driver transformer
LDO   = line deflection output transformer
SAFETY   = safety transformer
SMPS   = switched mode power supply transformer
SUPPLY   = supply transformer

AAF099-005 02   **NR1..4**   **Q56**
level nom   integer measure
1

number of secondary coils   N_sec(coil)
$N_{sec(coil)}$

The number of secondary coils of a power transformer.

AAF100-005 01   **NR2 S..3.3**   **E33**
level nom   real measure
%

resistance tolerance   R_tol
R_{tol}

The nominal tolerance on resistance (in %) identifying a resistor.

REMARKS:
Used only in cases of equal positive and negative tolerance values.

AAF101-006 01   X..3   A56
              simple   non-quantitative code

multiplicity   multiplicity

Code of the multiplicity of a fixed linear resistor.

MUL   = linear resistor networks
SIN   = single linear resistors

AAF102-005 01   M..3   A56
              simple   non-quantitative code

resistor interconnection   interconnection

Code of the type of interconnection of a fixed linear resistor network.

COM = common terminal
DIV = divider
ISO = isolated
LAD = ladder
TER = terminator

AAF103-005 01   NR3..3.3ES2   E01
              level max   real measure
                            A

current dc   I_dc
                          I_{dc}

The maximum dc current (in A) of an electric-electronic or electromechanical component at specified ambient temperature.

AAE014-005 = ambient temperature

AAF106-005 02   NR1..4   E01
              level max   integer measure
                            A

contact current (dc)   I_cont(dc)
rated operational current (dc) $I_{cont(dc)}$

The maximum dc switching current (in A) of a switch or relay at resistive load.

IEC 60947-1 (2004)

AAF107-005 02   NR3..3.3ES2   E06
              level max   real measure
                            V

contact voltage (dc)   U_cont
rated operational voltage (dc) U_{cont}

The maximum operating rms switching voltage (in V) of a switch or relay at resistive load.

NOTE
The rated voltage is the voltage between the contact members before closing or after opening.

IEC 60127-1 (1988)

AAF109-005 02   NR3..3.3ES2   E01
              level minTypMax   real measure
                                A

collector cut-off current I_CB I_CBO
                          I_{CBO}

The value as specified by level (minTypMax) of the direct current (in A) into the collector terminal of a bipolar transistor when it is biased in the reverse direction with respect to the base terminal and when the emitter terminal is open-circuited, at specified values of collector-base voltage and temperature of a temperature type.

AAE419-005 = collector-base voltage
AAE683-005 = temperature type
AAE685-005 = temperature

JESD 77B (2000)

REMARKS:
The collector terminal is considered to be biased in the reverse direction when it is made positive for NPN transistors or negative for PNP transistors with respect to the emitter terminal.

AAF110-005 02   **NR3..3.3ES2**   **E01**
level minTypMax   real measure
A

emitter cut-off current I_EBO   **I_EBO**
I_{EBO}

The value as specified by level (minTypMax) of the direct current (in A) into the emitter terminal of a bipolar transistor when it is biased in the reverse direction with respect to the base terminal and when the collector terminal is open-circuited, at specified values of emitter-base voltage and temperature of a temperature type.

AAE427-005 = base-emitter voltage
AAE683-005 = temperature type
AAE685-005 = temperature

JESD 77B (2000)

REMARKS:
The emitter terminal is considered to be biased in the reverse direction when it is made positive for NPN transistors or negative for PNP transistors with respect to the base terminal.

AAF112-005 01   **NR2 S..3.3**   **E06**
level max   real measure
V

emitter-base voltage V_EBO   **V_EBO**
V_{EBO}

The maximum limiting voltage (in V) between emitter and base terminals of a bipolar transistor, at open collector terminal.

JESD 77B (2000)

AAF113-005 02   **NR2 S..3.3**   **E06**
level max   real measure
V

collector-emitter voltage V_CE   **V_CEX**
V_{CEX}

The maximum limiting direct voltage (in V) between collector and emitter terminals of a bipolar transistor at specified voltage between base and emitter terminals.

AAE427-005 = base-emitter voltage

IEC 60748

AAF114-005 02   **NR2 S..3.3**   **E06**
level minTypMax   real measure
V

base-emitter saturation voltage   **V_BEsat**
V_{BEsat}

The value as specified by level (minTypMax) of the base-emitter voltage (in V) of a bipolar transistor at specified collector current, base current and temperature of a temperature type.

NOTE
This is the voltage between base and emitter terminals when both the base-emitter and base-collector junctions are forward biased.

AAE406-005 = collector current (dc)
AAE409-005 = base current (dc)
AAE683-005 = temperature type
AAE685-005 = temperature

IEC 60748

AAF115-005 02   **NR3..3.3ES2**   **E01**
level minTypMax   real measure
A

collector cut-off current I_CE   **I_CES**
I_{CES}

The value as specified by level (minTypMax) of the direct current (in A) into the collector terminal of a bipolar transistor when it is biased in the reverse direction with respect to the emitter terminal and when the base terminal is short-circuited to the emitter terminal, at specified values of collector-emitter voltage and temperature of a temperature type.

AAE412-005 = collector-emitter voltage
AAE683-005 = temperature type
AAE685-005 = temperature

JESD 77B (2000)

REMARKS:
The collector terminal is considered to be biased in the reverse direction when it is made positive for NPN transistors or negative for PNP transistors with respect to the emitter terminal.

AAF116-005 02   **NR3..3.3ES2**   **E09**
level max   real measure
F

collector-base capacitance   C_ob
C_{ob}

The maximum value of the capacitance (in F) between collector and base terminals of a bipolar transistor in common-base configuration and the emitter terminal open-circuited, at specified values of collector-base voltage, frequency and temperature of a temperature type.

AAE029-005 = frequency
AAE419-005 = collector-base voltage
AAE683-005 = temperature type
AAE685-005 = temperature

AAF117-005 03   **NR3..3.3ES2**   **E09**
level max   real measure
F

emitter-base input capacitance   C_ib
C_{ib}

The maximum value of the capacitance (in F) between emitter and base terminals of a bipolar transistor in common-base configuration and collector terminal open-circuited, at specified values of emitter-base voltage, frequency and temperature of a temperature type.

AAE029-005 = frequency
AAE427-005 = base-emitter voltage
AAE683-005 = temperature type
AAE685-005 = temperature

AAF118-005 02   **NR1 S..4**   **E06**
level max   integer measure
V

gate-source voltage limit   V_GSlim
V_{GSlim}

The maximum limiting direct voltage (in V) between gate and source terminals of a field-effect transistor.

AAF119-005 01   **M..3**   **A51**
simple   non-quantitative code

frequency application   frequency appl

Code of the frequency application of a filter.

AP   = all pass
BP   = band pass
BS   = band stop
HP   = high pass
LP   = low pass

AAF120-005   **02   NR1..4 E49**
level min   integer measure
dB

comb depth   comb depth
comb depth

The minimum comb depth (in dB) of a comb filter.

AAF121-005 02   **NR1..4**   **F13**
level max   integer measure
dB

pass-band attenuation   pass band att
pass band att

The maximum pass-band attenuation (in dB) of a band pass filter.

AAF122-005 01   **NR1..4**   **E01**
level nom   integer measure
A

rated breaking capacity   I_br
I_{br}

The nominal prospective current (in A) that a fuse-link is capable of breaking.

IEC 60269-1 (1998)

AAF123-005 02   **NR3 S..3.3ES2**   **E06**
level max   real measure
V

voltage drop   U_drop
U_{drop}

The maximum dc or ac rms voltage (in V) across a fuse-link at the rated current.

IEC 60127-1 (1988)

AAF124-005 01   **M..8**   **A51**
simple   non-quantitative code

integrated component   integr comp

Code of a component integrated with a connector.

COVER   = cover
EARTH   = earth contact
HANDLE   = handle
HOUSE   = house
LATCH   = latch
SHIELD   = shield

AAF125-005 01   **M..8**   **A57**
              simple   non-quantitative code

contact spring material cont spring mat

Code of the material of the spring of the contacts of
a connector, relay or switch.

BeCu   = beryllium copper
PCuSn   = phosphor bronze

AAF126-005 01   **M..8**   **A59**
              simple   non-quantitative code

UL flammability   **UL flammability**

UL code of the flammability of a connector.

94-5V   = 94-5V
94HB   = 94HB
94HBF   = 94HBF
94HBF-1   = 94HBF-1
94HBF-2   = 94HBF-2
94V-0   = 94V-0
94V-1   = 94V-1
94V-2   = 94V-2
94VTM-0   = 94VTM-0
94VTM-1   = 94VTM-1
94VTM-2   = 94VTM-2

AAF127-005 01   **M..3**   **A59**
              simple   non-quantitative code

IEC flammability   **IEC flammable**

IEC code of the flammability of a connector.

FH1 = FH1
FH2 = FH2
FH3 = FH3
FV0 = FV0
FV1 = FV1
FV2 = FV2

REMARKS:
FH = Flame Horizontal FV = Flame Vertical

AAF128-005 01   **M..3**   **A91**
              simple   non-quantitative code

package colour   **package colour**
envelope colour

UL code of the colour of a connector body.

BG = beige
BK = black
BL = blue
BN = brown
BZ = bronze
GN = green
GY = grey
IV = ivory
NC = natural (no pigmentation)
OR = orange
PK = pink
RD = red
TN = tan
VT = violet
WT = white
YL = yellow

AAF129-005 02   **NR3..3.3ES2**   **E06**
              level max   real measure
                                V

release voltage (dc)   **U_rel(dc)**
                               $U_{rel(dc)}$

The maximum dc voltage (in V) at which an
energised relay releases.

IEC 61810-7 (1997)

AAF130-005 02   **NR2..3.3**   **E49**
              level max   real measure
                                VA

contact power (dc)   **P_cont(dc)**
                               $P_{cont(dc)}$

The maximum switching apparent power (in VA) as a
product of the actual dc contact voltage and the
actual dc contact current applied in combination to a
switch or relay at resistive load.

REMARKS:
The apparent power is less then the product of
contact current and contact voltage.

AAF131-005 02   **NR1..4**   **Q56**
              level nom   integer measure
                                1

number of phases   **N_ph**
                               N_{ph}

The number of actual phases of a motor.

AAF132-005	01	NR3..3.3ES2	T03
	level max	real measure m	

travel   **S_mot**
S_{mot}

The maximum travel (in m) of a linear motor.

AAF133-005	01	NR3..3.3ES2	K12
	level nom	real measure N	

rated force   **F_nom**
F_{nom}

The nominal force (in N) of a linear motor.

AAF134-005	01	M..8	A51
	simple	non-quantitative code	

integrated function   **integr function**

Code of a component integrated with a switch.

BAR   = barrier
KNOB   = knob
LAMP   = lamp
LED   = light emitting diode
OO   = on/off indication
PLATE = insulating plate
RING   = blocking ring

AAF135-005	01	NR3 S..3.3ES2	E01
	level max	real measure A	

off-state current   **I_D**
I_D

The maximum dc off-state current (in A) in the forward direction of a thyristor or triac at a specified high off-state voltage and a temperature of a temperature type.

AAE683-005 = temperature type
AAE685-005 = temperature
AAE737-005 = off-state voltage

REMARKS:
This off-state voltage will be equal to V_{D-max}, V_{DWM}, or V_{RDM} (worst-case situation).

AAF136-005	01	NR3 S..3.3ES2	E01
	level minTypMax	real measure A	

holding current   **I_H**
I_H

The value as specified by level (minTypMax) of the dc forward current (in A) required to hold the thyristor or triac in the on-state at specified temperature of a temperature type.

AAE683-005 = temperature type
AAE685-005 = temperature

AAF137-005	01	NR3 S..3.3ES2	E01
	level minTypMax	real measure A	

latching current   **I_L**
I_L

The value as specified by level (minTypMax) of the dc forward current (in A) required to maintain the thyristor or triac in the on-state after the triggering pulse has been removed, at a specified temperature of a temperature type.

AAE683-005 = temperature type
AAE685-005 = temperature

AAF138-005	02	NR3..3.3ES2	E01
	level minTypMax	real measure A	

collector current light   **I_CEO(L)**
$I_{CEO(L)}$

The value as specified by level (minTypMax) of the direct collector current (in A) in a photosensor transistor at open base and specified collector-emitter voltage, irradiance of a certain wavelength and temperature of a temperature type.

AAE412-005 = collector-emitter voltage
AAE569-005 = wavelength at peak value
AAE570-005 = irradiance
AAE683-005 = temperature type
AAE685-005 = temperature

REMARKS:
Called light collector current when irradiance occurs.

AAF139-005 02   **NR3..3ES2**   **E01**
level minTypMax   real measure
A

collector cut-off current dark I_CEO(D)
$I_{CEO(D)}$

The value as specified by level (minTypMax) of the direct collector current (in A) in a photosensor transistor at open base and zero irradiance and specified values of collector-emitter voltage and temperature of a temperature type.

AAE412-005 = collector-emitter voltage
AAE683-005 = temperature type
AAE685-005 = temperature

REMARKS:
Called dark collector current if irradiance is zero.

AAF140-005 02   **NR3..3ES2**   **E01**
level minTypMax   real measure
A

collector current light I_CEO(L)
$I_{CEO(L)}$

The value as specified by level (minTypMax) of the direct collector current (in A) in a photocoupler at open base and specified collector-emitter voltage, forward voltage, forward current and temperature of a temperature type.

AAE274-005 = forward current
AAE412-005 = collector-emitter voltage
AAE499-005 = forward voltage
AAE683-005 = temperature type
AAE685-005 = temperature

AAF141-005 02   **NR3..3ES2**   **E01**
level minTypMax   real measure
A

cut-off current dark I_CEO I_CEO(D)
$I_{CEO(D)}$

The value as specified by level (minTypMax) of the direct collector current (in A) in a photocoupler at open base and zero forward current and specified collector-emitter voltage and temperature of a temperature type.

AAE412-005 = collector-emitter voltage
AAE683-005 = temperature type
AAE685-005 = temperature

AAF142-005 02   **NR3..3ES2**   **E01**
level minTypMax   real measure
A

cut-off current dark I_CBO   I_CBO(D)
$I_{CBO(D)}$

The value as specified by level (minTypMax) of the direct collector current (in A) in a photocoupler at open emitter and zero forward current and specified values of collector-base voltage and temperature of a temperature type.

AAE419-005 = collector-base voltage
AAE683-005 = temperature type
AAE685-005 = temperature

AAF143-005 02   **NR3..3ES2**   **E01**
level minTypMax   real measure

reverse current light   I_R(L)
$I_{R(L)}$

The value as specified by level (minTypMax) of the reverse direct current (in A) in a photosensor diode at specified values of reverse voltage, irradiance of a specified wavelength and temperature of a temperature type.

AAE335-005 = reverse voltage
AAE569-005 = wavelength at peak value
AAE570-005 = irradiance
AAE683-005 = temperature type
AAE685-005 = temperature

REMARKS:
Called light reverse current when irradiance occurs.

AAF144-005 02   **NR3..3ES2**   **E01**
level minTypMax   real measure
A

reverse current dark   I_R(D)
$I_{R(D)}$

The value as specified by level (minTypMax) of the reverse direct current (in A) in a photosensor diode at zero irradiance and specified values of reverse voltage and temperature of a temperature type.

AAE335-005 = reverse voltage
AAE683-005 = temperature type
AAE685-005 = temperature

REMARKS:
Called dark reverse current when irradiance is zero.

AAF145-005	01	NR3..3ES2	T03
	level nom	real measure m	

digit length   **l_dig**
l_{dig}

The nominal length (in m) of a digit of a liquid crystal display.

REMARKS:
The length is measured in the horizontal direction.

AAF146-005	02	X..3	A56
	simple	non-quantitative code	

frequency application   **frequency appl**

Code of the frequency identifying an amplifier, signal cable or transistor.

LF   = low frequency
RF   = radio frequency
WB   = wideband

REMARKS:
Wideband only to be used for amplifiers.

AAF148-005	02	M..8	A56
	simple	non-quantitative code	

socket type   **socket type**

Code of the type of a connector socket.

EDGE = printed board socket
SBAT = battery socket
SFUS = fuse socket
SIC   = IC socket
SLAM = lamp socket
SLCD = display socket
SOPT = LED socket
SREL = relay socket
STRA = transistor socket
STUB = tube socket

AAF150-005	02	NR1..4	Q56
	level nom	integer measure 1	

number of contacts per row   **N_cont/row**
N_{cont}/row

The number of contacts per row of a connector.

AAF151-005	01	M..3	A56
	simple	non-quantitative code	

adjustability type   **adjustability**

Code of the type of mechanical adjustability identifying an inductor.

FIX   = fixed
VAR = variable

AAF152-005	01	NR3 S..3.3ES2	E01
	level max	real measure A	

input offset current   **I_IO**
I_{IO}

The maximum value of the dc current (in A) equal to the difference in the currents in the two input terminals of an operational amplifier to attain zero output voltage at reference conditions.

AAE995-005 = reference conditions

IEC 60748-3 (1986)

AAF153-005	01	NR3 S..3.3ES2	E01
	level max	real measure A/Cel	

temp coef input offset current $a_IIO
α_{IIO}

The maximum value of the quotient (in A/Cel) of the change of input offset current of an operational amplifier over the operating temperature range and at the nominal supply voltage.

IEC 60748-3 (1986)

AAF154-005	01	NR3 S..3.3ES2	E01
	level max	real measure A	

average bias current   **I_IB**
input bias current I_{IB}

The maximum value of the dc current (in A), equal to the arithmetic average of the currents into the differential input terminals of an operational amplifier in a quiescent state at reference conditions.

AAE995-005 = reference conditions

IEC 60748-3 (1986)

AAF155-005	01	NR3 S..3.3ES2	E06
	level max	real measure	
		V	

input offset voltage   **V_IO**
V_{IO}

The maximum value of the dc voltage (in V), required to be applied between the input terminals of an operational amplifier, to cause zero output voltage at reference conditions.

AAE995-005 = reference conditions

IEC 60748-3 (1986)

AAF156-005	01	NR3 S..3.3ES2	E06
	level max	real measure	
		V/Cel	

temp coef input offset voltage $a_VIO
α_{VIO}

The maximum value of the quotient (in V/Cel), of the change of input offset voltage of an operational amplifier over the operating temperature range and at the nominal supply voltage.

IEC 60748-3 (1986)

AAF157-005	02	NR2 S..3.3	E06
	level max	real measure	
		V	

common-mode input voltage   V_IC
common-mode input voltage range V_{IC}

The maximum common-mode input voltage (in V) applied to a differential amplifier which, if exceeded, may cause the amplifier to cease to function within specification.

IEC 60748-3 (1986)

AAF158-005	01	NR2 S..3.3	E06
	level min	real measure	
		V	

output voltage peak-to-peak   V_OPP
output voltage swing V_{OPP}

The minimum value of the peak-to-peak output voltage (in V) of a voltage amplifier over the operating temperature range, at specified load resistance and supply voltage.

AAE102-005 = supply voltage
AAE212-005 = load resistance

IEC 60748-3 (1986)

AAF159-005	02	NR3..3.3ES2	E06
	level min	real measure	
		1	

large-signal voltage gain   **A_VOL**
A_{VOL}

The minimum guaranteed ratio of the maximum output voltage swing to the change in input voltage, of a voltage amplifier at specified supply voltage and load resistance.

AAE102-005 = supply voltage
AAE212-005 = load resistance

AAF160-005	01	NR1..4	E06
	level minTypMax	integer measure	
		dB	

common-mode rejection ratio k_CMR
k_{CMR}
CMRR

The value as specified by level (minTypMax) of the ratio of the differential-mode voltage amplification to the common-mode voltage amplification (in dB) of a differential amplifier over the operating temperature range at specified supply voltage.

AAE102-005 = supply voltage

IEC 60748-3 (1986)

AAF161-005	01	NR3..3.3ES2	E06
	level max	real measure	
		V/V	

supply voltage sensitivity   **k_SVS**
k_{SVS}

The maximum absolute value of the ratio (in V/V) of the change in input offset voltage to the corresponding change in value of any one power-supply voltage, with all remaining power-supply voltages held constant, of an operational amplifier at reference conditions.

AAE995-005 = reference conditions

IEC 60748-3 (1986)

AAF162-005 02   **NR1..4**   **E06**
level min   integer measure
V/s

slew rate   **SR**
max change rate output voltage SR
S_VOM

The minimum guaranteed maximum rate of change of the output voltage (in V/s) of a voltage amplifier at specified load resistance, maximum output voltage swing and at reference conditions.

AAE212-005 = load resistance
AAE995-005 = reference conditions

IEC 60748-3 (1986)

AAF163-005 01   **NR3..3.3ES2**   **E33**
level min   real measure
Ω

differential input resistance   r_id
r_{id}

The minimum resistance (in ohms) between the inputs of a differential amplifier at reference conditions.

AAE995-005 = reference conditions

IEC 60748-3 (1986)

REMARKS:
In order to be able to consider the input impedance as a pure resistance, the measurement signal frequency must be sufficiently low so that there are no significant phase differences between the voltages at the input terminals of the amplifier to be measured with or without the series resistor.

AAF164-005 01   **NR3 S..3.3ES2**   **E33**
level min   real measure
Ω

common-mode input resistance   r_ic
r_{ic}

The minimum resistance (in ohms) between the inputs in parallel and the electrical reference point of a differential amplifier at reference conditions.

AAE995-005 = reference conditions

IEC 60748-3 (1986)

AAF165-005 01   **NR3 S..3.3ES2**   **E33**
level typ   real measure
Ω

output resistance   **r_out**
r_{out}

The typical resistance (in ohms) at the output of a voltage amplifier at reference conditions.

AAE995-005 = reference conditions

REMARKS:
This is the resistance looking into the output terminal with the output at null.
This parameter is defined only under small-signal conditions at frequencies above a few hundred cycles to eliminate the influence of drift and thermal feedback.

AAF166-005 01   **NR3..3.3ES2**   **F03**
level min   real measure
Hz

unity-gain frequency   f_1
small-signal unity gain f_1

The minimum value of the frequency (in Hz) at which the modulus of the voltage open-loop amplification of a voltage amplifier is equal to unity at reference conditions.

AAE995-005 = reference conditions

IEC 60748-3 (1986)

REMARKS:
For amplifiers having 6 dB-per-octave rolloff, the frequency is also called unity gain bandwidth.

AAF167-005 02   **NR3..3.3ES2**   **F03**
level min   real measure
Hz

gain bandwidth product GB
gain bandwidth   GB

The minimum value of the small-signal gain bandwidth product (in Hz) of a voltage amplifier at specified frequency and at reference conditions.

AAE029-005 = frequency
AAE995-005 = reference conditions

REMARKS:
For amplifiers having a 6 dB-per-octave rolloff, the gain-bandwidth product is constant within this area.

AAF168-005	02	NR3..3.3ES2	T07
	level max	real measure s	

total response time   **t_tot**
settling time t_{tot}

The maximum value of the sum of delay time, slope time and ripple time (in s) of a voltage amplifier under small-signal conditions and compensated for unity gain at reference conditions.

AAE995-005 = reference conditions

IEC 60748-3 (1986)

REMARKS:
The ripple time is the time interval between the end of the slope time and that instance at which the magnitude of the output signal reaches, for the last time, a specified level range containing the final output signal level. This level range is called ripple tolerance, and generally is 0,1 % of the final output signal.

AAF169-005	01	X..3	A56
	simple	non-quantitative code	

amplified quantity   **amplified qnty**

Code of the quantity which is amplified, identifying a low-frequency amplifier.

PWA   = power amplifier
VTA   = voltage amplifier

AAF170-005	01	NR1..4	E06
	level min	integer measure dB	

power supply rejection ratio   **PSRR**
supply voltage rejection ratio   PSRR
                                              k_{SVR}

The minimum absolute value of the ratio (in dB) of the change in any one power-supply voltage to the resulting change in input offset voltage, with all remaining power-supply voltages held constant, of an operational amplifier at reference conditions.

AAE995-005 = reference conditions

IEC 60748-3 (1986)

AAF191-005	01	X..3	A56
	simple	non-quantitative code	

input configuration   **input config**

Code of the type of input configuration, identifying a voltage amplifier.

DFA   = differential amplifier
SSA   = single-sided amplifier

AAF192-005	01	X..3	A56
	simple	non-quantitative code	

coupling method   **coupling**

Code of the coupling method identifying a differential amplifier.

ACA   = ac-coupled amplifier
OPA   = operational amplifier (dc-coupled)

AAF193-005	02	NR1..4	G21
	level min	integer measure dB	

sensitivity   **sensitivity**
output sound pressure level   sensitivity

The minimum sound pressure level of a loudspeaker (in dB), relative to the reference sound pressure level at any frequency within the effective frequency range referred to a sinusoidal input power of 1 W and to a distance of 1 m on the reference axis.

AAF202-005	01	X..3	A91
	simple	non-quantitative code	

chromaticity   **chromaticity**

Code of the chromaticity type of a display tube.

COL   = colour display tube
MCR   = monochrome display tube

AAF203-005 01   **NR3..3.3ES2**   **E01**
level max   real measure
A

anode current average   **I_a(av)**
$I_{a(av)}$

The maximum limiting long term average anode current (in A) of a display tube.

IEC 60050 (531) (1974)

REMARKS:
'long term' means that the image is stationary for an indefinite period of time, as during the display of test pictures, computer images, teletext data or stationary television scenes lasting longer than 30 s.

AAF204-005 01   **NR3..3.3ES2**   **E01**
level max   real measure
A

anode current peak   **I_a(peak)**
$I_{a(peak)}$

The maximum limiting long term peak anode current (in A) of a display tube.

IEC 60050 (531) (1974)

REMARKS:
'long term' means that the image is stationary for an indefinite period of time, as during the display of test pictures, computer images, teletext data or stationary television scenes lasting longer than 30 s.

AAF205-005 02   **NR1..4**   **Q56**
level nom   integer measure
1

vertical resolution   **resolution V**
resolution V

The number of visible horizontal lines of a display tube.

IEC 60050 (531) (1974)

REMARKS:
Measured with the shrinking raster method at screen centre.

AAF206-005 01   **NR2 S..3.3**   **E06**
level miNoMax   real measure
V

grid 2 voltage   **V_g2**
V_{g2}

The value as specified by level (miNoMax) of the direct voltage (in V), on grid 2 of a monochrome display tube.

REMARKS:
All voltages relative to grid 1 (cathode drive) to the cathode (grid drive).

AAF207-005 02   **NR3 S..3.3ES2**   **E01**
level minMax   real measure
A

output short-circuit current   **I_OS**
dynamic output current I_{OS}

The value as specified by the level (minMax) of the output current (in A) of a digital TTL IC, when an output is short-circuited, at maximum supply voltage, and in a temperature range between specified temperatures (T_1 and T_2).

NOTES
1 Not more than one output should be shorted at a time.
2 The duration of the short-circuit should not exceed 1s.

AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

REMARKS:
The output short-circuit current was intended originally to reassure the TTL user that the device would withstand accidental grounding e.g. during in-circuit testing.
This parameter has become a measure of the ability of the circuit to charge the line capacitance and is used to calculate propagation delays.
In CMOS devices there is no need to specify this parameter because the purely capacitive loads allow extrapolation of the ac parameters to calculate the increase in propagation delay.

AAF208-005 01   **NR2 S..3.3**   **E06**
          level min   real measure
                        V

positive-going threshold   **V_IT+**
                                 V_{IT+}
                                 V_{ITP}

The minimum input voltage level (in V) of a combinatorial, sequential or interface function of an IC that, when crossed with a rising input voltage, enables an output to change its logic state in a temperature range between specified temperatures (T_1 and T_2).

AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

IEC 60748-2 (1997)

AAF209-005 01   **NR2 S..3.3**   **E06**
          level max   real measure
                        V

negative-going threshold   **V_IT-**
                                 V_{IT-}
                                 V_{ITN}

The maximum input voltage level (in V) of a combinatorial, sequential or interface function of an IC that, when crossed with a falling input voltage, enables an output to change its logic state in a temperature range between specified temperatures (T_1 and T_2).

AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

IEC 60748-2 (1997)

AAF210-005 01   **NR3..3.3ES2**   **E06**
          level min   real measure
                        V

hysteresis   **V_hys**
                   V_{hys}

The minimum difference (in V) between the positive-going and negative-going threshold voltages of a combinatorial, sequential or interface function of an IC in a temperature range between specified temperatures (T_1 and T_2).

AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

IEC 60748-2 (1997)

AAF211-005 01   **NR3..3.3ES2**   **F03**
          level max   real measure
                        Hz

maximum clock frequency   **f_clk(max)**
                                $f_{clk(max)}$

The maximum clock frequency (in Hz) at 50 % duty cycle, which may be applied to a combinatorial, sequential or interface function or a register function of an IC, in a temperature range between specified temperatures (T_1 and T_2).

AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

AAF212-005 02   **NR3 S..3.3ES2**   **T07**
          level min   real measure
                        s

set-up time   **t_su**
                    t_{su}

The minimum time interval (in s) between application of a signal that is maintained at an input terminal and a subsequent active transition of the corresponding timing pulse of a combinatorial, sequential or interface function of an IC in a temperature range between specified temperatures (T_1 and T_2).

NOTES
1 The set-up time is the actual time between two signals and may be insufficient to accomplish the intended result. A minimum value is specified that is the shortest interval for which correct operation of the digital circuit is guaranteed.
2 The set-up time may have a negative value, in which case the minimum limit defines the longest interval (between the active transition and the application of the other signal) for which interval correct operation of the digital circuit is guaranteed.

AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

IEC 60748-2 (1997)

| AAF213-005 | 02 | NR3 S..3.3ES2 | T07 |
| | level min | real measure s | |

hold time   **t_h**
                                 t_h

The minimum time interval (in s) during which a signal is retained at an input terminal after the subsequent active transition of the corresponding timing signal of a combinatorial, sequential or interface function of an IC in a temperature range between specified temperatures (T_1 and T_2).

NOTES
1 The hold time is the actual time between two signals and may be insufficient to accomplish the intended result. A minimum value is specified that is the shortest interval for which correct operation of the digital circuit is guaranteed.
2 The hold time may have a negative value, in which case the minimum limit defines the longest interval (between the active transition and the application of the other signal) for which interval correct operation of the digital circuit is guaranteed.

AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

IEC 60748-2 (1997)

| AAF214-005 | 02 | NR3..3.3ES2 | T07 |
| | level min | real measure s | |

output enable time   **t_lz**
                                 t_{lz}
                                 t_{oe}

The minimum time interval (in s) between application of a signal that is maintained at an input terminal and causes an output terminal to change from a high impedance (off) state to either of the defined active levels (HIGH or LOW) of a combinatorial, sequential or interface function of an IC in a temperature range between specified temperatures (T_1 and T_2).

AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

IEC 60748-2 (1997)

| AAF215-005 | 02 | NR3..3.3ES2 | T07 |
| | level max | real measure s | |

output disable time   **t_hz**
                                 t_{hz}
                                 t_{od}

The maximum time interval (in s) between application of a signal that is maintained at an input terminal and causes an output terminal to change from either of the defined active levels (HIGH or LOW) to a high impedance (off) state, of a combinatorial, sequential or interface function of an IC in a temperature range between specified temperatures (T_1 and T_2).

AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

IEC 60748-2 (1997)

| AAF216-005 | 02 | NR3..3.3ES2 | T07 |
| | level min | real measure s | |

pulse width HIGH   **t_WH**
pulse duration HIGH t_{WH}

The minimum pulse width (in s) at the minimum HIGH-level required for correct operation, applied to a combinatorial, sequential or interface function of an IC, in a temperature range between specified temperatures (T_1 and T_2).

AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

IEC 60748-2 (1997)

| AAF217-005 | 02 | NR3..3.3ES2 | T07 |
| | level min | real measure s | |

pulse width LOW   **t_WL**
pulse duration LOW t_{WL}

The minimum pulse width (in s) at the minimum LOW-level required for correct operation, applied to a combinatorial, sequential or interface function of an IC, in a temperature range between specified temperatures (T_1 and T_2).

AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

IEC 60748-2 (1997)

AAF218-005	02	NR3..3ES2	T07
	level nom	real measure s	

metastable window **t_meta**
t_{meta}

The nominal time interval (in s) in which an inappropriate excitation gives rise to a metastable pattern at the output of a combinatorial, sequential or interface function of an IC, in a temperature range between specified temperatures (T_1 and T_2).

AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

AAF219-005	02	NR3..3ES2	T07
	level min	real measure s	

recovery time **t_rec**
removal time t_{rec}

The minimum time interval (in s) between the trailing edge of an asynchronous control input pulse and the reference point on the activating edge of a synchronous (clock) input pulse so that the combinatorial, sequential or interface function of an IC will respond to the synchronous input in a temperature range between specified temperatures (T_1 and T_2).

AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

AAF221-005	01	M..3	A56
	simple	non-quantitative code	

bus structure **bus structure**

Code identifying the bus structure of a microprocessor.

MUL = multiple bus structure (Harvard)
SIN = single bus structure (von Neumann)

AAF222-005	01	M..8	A56
	simple	non-quantitative code	

instruction set architecture **instr set arch**

Code identifying the instruction set architecture of a microprocessor.

CISC = complex instruction set computer
RISC = reduced instruction set computer

AAF223-005	02	NR1..4	F01
	level nom	integer measure 1	

machine cycle **M**
number of clock periods M

The number of internal clock periods in which a microcontroller or microprocessor carries out a memory read or write operation.

AAF224-005	01	NR3..3ES2	F03
	level minMax	real measure Hz	

clock frequency **f_clk**
f_{clk}

The value as specified by the level (minMax) of the clock frequency (in Hz) which may be applied to a microcontroller or microprocessor in a temperature range between specified temperatures (T_1 and T_2).

AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

AAF225-005	01	NR3..3ES2	F03
	level minMax	real measure Hz	

internal clock frequency **f_clk(int)**
$f_{clk(int)}$

The value as specified by the level (minMax) of the internal clock frequency (in Hz) of a microcontroller or microprocessor in a temperature range between specified temperatures T_1 and T_2).

AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

AAF226-005	01	NR1..4	J01
	level nom	integer measure bit	

address bus width **addr bus width**
addr bus width

The width of the address bus (in bit) of a microcontroller or microprocessor.

AAF227-005 01   NR1..4   J01
level nom   integer measure
bit

data bus width   data bus width
data bus width

The width of the data bus (in bit) of a microcontroller or microprocessor.

AAF228-005 02   NR3..3ES2   J01
level nom   real measure
1

addressable storage size   N_word
N_{word}

The number of words of the storage capacity of the program memory that a microprocessor or microcontroller can access via its corresponding external address bus.

REMARKS:
The addressable storage size equals 2^n, in which n equals the address bus width (in bit).

AAF229-005 02   NR3..3ES2   J05
level nom   real measure
i/s

instruction rate   Mips
Mips

The instruction handling speed (in i/s) at specified externally applied maximum clock frequency, of a microcontroller or microprocessor.

NOTE
The instruction handling speed is determined by the kind of test program used.

ISO/IEC2382-1 (1993)

AAF230-005 02   NR1..4   Q56
level nom   integer measure
1

number of internal registers   N_reg
N_{reg}

The number of internal registers of a microcontroller or microprocessor.

AAF231-005 02   M..8   A56
simple   non-quantitative code

PLD programmability   programmability

Code identifying the programmability of a PLD.

EEPLD   = *electrically erasable PLD
EPLD   = erasable PLD
LDPLD   = loadable PLD
MPLD   = mask programmed PLD
OTPLD   = one time programmable PLD
UVPLD   = *UV erasable PLD

AAF232-005 02   NR3..3ES2   T07
level min   real measure
s

output data-valid time   t_data
t_{data}

The minimum time interval (in s) during which output data continues to be valid following a change of input conditions that could cause the output data to change at the end of the interval applicable to a storage IC in a temperature range between specified temperatures (T_1 and T_2).

AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

IEC 60748-2 (1997)

AAF233-005 01   X..3   A56
simple   non-quantitative code

RAM type   RAM type

Code identifying a RAM function of an IC.

DRM = DRAM
SRM = SRAM

AAF234-005 01   M..8   A56
simple   non-quantitative code

register type   register type

Code identifying a register function of an IC.

FIFO = first-in first-out register
LIFO = last-in first-out register
SHR = shift register

AAF235-005 01   **M..8**   **A55**
                 simple   non-quantitative code

virginity state   **virginity state**
unprogrammed state

Code identifying the logic state of the outputs of a
virgin (unprogrammed) or erased EPROM.

HIGH = HIGH-state
LOW   = LOW-state

AAF236-005 02   **M..8**   **A56**
                 simple   non-quantitative code

ROM programmability   **ROM prog**

Code identifying the programmability of a ROM.

EEPROM   = *electrically erasable ROM
EPROM   = erasable ROM
MROM   = mask programmed ROM
OTPROM   = one time programmable ROM
UVPROM   = *UV erasable ROM

AAF237-005 01   **NR2..3.3**   **E01**
                 level max   real measure
                              A

programming current   **I_PP**
                           I_{PP}

The maximum value of the current (in A) sinked by
the programming input of an EPROM during
programming at the reference temperature.

AAF238-005 01   **NR2..3.3**   **E06**
                 level minMax   real measure
                                 V

programming voltage   **V_PP**
                           V_{PP}

The value as specified by level (minMax) of the
programming voltage (in V) of an EPROM at the
reference temperature.

AAF239-005 01   **X..3**   **A58**
                 simple   non-quantitative code

bare/insulated   **bare/insulated**

Code indicating whether a conductor consists of a
single bare conductor or contains one or more
insulated conductive parts.

BAR = bare conductor
INS = insulated conductor (wires and cables)

AAF240-005 01   **M..8**   **A57**
                 simple   non-quantitative code

conductor finish   **conductor finsh**

Code of the finish material of a conductive part of a
conductor.

Ag   = silver
Ni   = nickel
Sn   = tin

AAF241-005 01   **M..8**   **A57**
                 simple   non-quantitative code

conductive material   **conductor mat**

Code of the material of a conductive part of a
conductor.

Al   = aluminium
Cu   = copper
CuCd   = copper-cadmium
CuCdCr   = copper-cadmium-chromium
CuCr   = copper-chromium
CuNi   = copper-nickel
CuSn   = bronze
CuZn   = brass
Fe/Cu   = iron core/copper mantle

AAF242-006 01   **M..8**   **A58**
                 simple   non-quantitative code

conductor shape   **conductor shape**

Code of the shape of a conductive part of a
conductor.

OVAL   = oval
RECTAN   = rectangular
ROUND   = round
SECTOR   = sector

AAF243-005 03   **M..8**   **A58**
                 simple   non-quantitative code

conductor configuration conductor confg

Code of the configuration of a conductive part of a
conductor.

BRAID   = *braided conductor
BUNCH   = *bunched conductor
LITZ   = *litze conductor
SOLID   = solid conductor
STRAND   = stranded conductor
TINSEL   = *tinsel conductor

AAF244-005 01   **M..8**   **A58**
            simple   string

conductor size AWG   **AWG code**

AWG code of the size of a conductive part of a
conductor.

REMARKS:
For values see standard nominal diameters and
cross-sectional areas of solid round wires.

AAF245-005 02   **NR3..3.3ES2**   **E33**
            level nom   real measure
                            Ω/m

dc resistance   **R_dc**
                            R_{dc}
                            R_0

The nominal dc resistance per unit length (in Ω/m) of
a conductive part of a conductor.

AAF246-005 02   **NR3..3.3ES2**   **T03**
            level miNoMax   real measure
                            m

conductor diameter   **d_cond**
                            d_{cond}

The value as specified by level (miNoMax) of the
diameter (in m) of a conductive part of a round
conductor.

AAF247-005 03   **NR3..3.3ES2**   **T05**
            level nom   real measure
                            m²

cross-section   **A_cross**
                            A_{cross}

The nominal cross-sectional area (in m²) of a
conductive part of a conductor.

AAF248-005 02   **M..8**   **A52**
            simple   non-quantitative code

insulating material   **insulating mat**

ISO code of the material of the insulating layer of an
insulated conductor.

E/TFE   = *ethylene/tetrafluoroethylene
ECTFE   = *ethyl cellulose
             tetrafluoroethylene
ENAM   = enamel
FEP   = *fluoroepoxy
PA   = *polyamide
PAPER   = paper
PE   = *polyethylene
PFA   = *perfluoro alkoxyl alkane
POLY   = polymer
PP   = *polypropylene
PTFE   = *polytetrafluoroethylene
PUR   = *polyurethane
PVC   = *polyvinylchloride
RUBBER   = rubber
TEXTILE   = textile
UP   = *unsaturated polyester

REMARKS:
Only the polymers are coded according to ISO.

AAF249-005 01   **X..3**   **A55**
            simple   non-quantitative code

cable/wire   **cable/wire**

Code indicating the multiplicity of conductors of an
insulated conductor.

CBL   = cable (multi-conductor)
IWR   = insulated wire (single conductor)

AAF250-005 02   **M..3**   **A91**
            simple   non-quantitative code

colour code   **colour code**

IEC code of the colour of the insulation layer of an
insulated wire.

0   = black
1   = brown
2   = red
22   = pink
3   = orange
4   = yellow
5   = green
55   = turquoise
6   = blue
7   = violet
8   = grey
9   = white

AAF251-005 03   **NR1 S..4**   **E06**
                   level min   integer measure
                                 V

test voltage minimum   U_bd(min)
minimum breakdown voltage $U_{bd(min)}$
dielectric strength

The minimum value of the dc voltage (in V) which the insulation of an insulated conductor can withstand.

IEC 60851-5 (1996)

AAF252-005 01   **M..8**   **A58**
                   simple   string

MIL cable type   MIL code

MIL code of the type of a cable.

REMARKS:
For values see naming document.

AAF253-005 01   **M..3**   **A58**
                   simple   non-quantitative code

LF cable element   LFcable element

Code indicating the type of basic elements which an LF cable contains.

1   = singles
1S   = singles screened
2   = pairs
2S   = pairs screened
3   = triples
3S   = triples screened
4   = quads
4S   = quads screened
5   = quintuples
5S   = quintuples screened

AAF254-005 01   **M..3**   **A58**
                   simple   non-quantitative code

cable configuration   CBL config

Code of the configuration of a cable.

BND = bundled cable
FLT = flat cable

AAF255-005 02   **NR1..4**   **Q51**
                   level nom   integer measure
                                 1

number of cable elements   N_elem
                                 N_{elem}

The number of basic elements in a cable.

REMARKS:
The type of basic element is defined by AAF253-005 and AAF256-005.

AAF256-005 01   **M..3**   **A58**
                   simple   non-quantitative code

RF cable element   RFcable element

Code indicating the type of basic elements of an RF cable.

CX   = coaxial cable (concentric)
PP   = parallel pairs
PPS   = parallel pairs screened

AAF257-005 03   **M..8**   **A58**
                   simple   non-quantitative code

dielectric construction diel config

Code of the construction of the dielectric of an RF cable.

AIR   = air-spaced dielectric
FOAM   = *foam
SEMAIR = semi-air-spaced dielectric
SOLID   = solid dielectric
THREAD = *thread
TUBE   = *tube/thread

AAF258-005 01   **NR1..4**   **E06**
                   level nom   integer measure
                                 V

working voltage   U
                           U

The nominal ac rms voltage (in V) between any two conductors, for which a cable is designed.

IEC 60183 (1984)

AAF259-005 01   **NR3..3.3ES2**   **E09**
                   level nom   real measure
                                 F/m

capacitance between conductors   C_c-c
                                     C_{c-c}

The nominal capacitance per unit length (in F/m) between a pair of conductors of a cable.

AAF260-005   02   NR3..3.3ES2   E44
   level miNoMax real measure
       Ω

characteristic impedance |Z|
        |Z|

The value as specified by level (miNoMax) of the modulus of the characteristic impedance (in ohms) of a pair of conductors of a cable or of a radio-frequency connector at specified frequency.

AAE029-005 = frequency

AAF261-005 02   NR1..4   F10
   level nom integer measure
       dB/m

attenuation   attenuation
       attenuation

The nominal power attenuation (in dB/m) of a pair of conductors of a cable at specified frequency.

AAE029-005 = frequency

IEC 60096-1 (1986)

AAF262-005 01   M..3   A56
   simple non-quantitative code

wire application   application

The code of the application of an insulated wire.

CNT = connecting wire
WND = winding wire

AAF264-005 01   M..8   A56
   simple non-quantitative code

driving method   @MUX-ratio
drive method @MUX-ratio

Code of the driving method (ratio) as applied to a liquid crystal display or module, as a variable.

01:08	= 01:08
0.086111111	= 0.086111111
0.111111111	= 0.111111111
0.180555556	= 0.180555556
0.208333333	= 0.208333333
01:01	= DD direct drive
01:02	= 01:02
01:03	= 01:03
01:16	= 01:16
01:32	= 01:32
01:04	= 01:04

AAF265-005   01   M..3   A53
   simple non-quantitative code

packing arrangement   packing arrange

Code of the arrangement of products in the first level packing.

ARR = arranged
CON = *concertina
LSE = loose
MET = metal strip
TAP = taped
WND = *wound

AAF266-005 02   M..8   A53
   simple non-quantitative code

inductance level   ind level

Code of the inductance level of a fixed resistor.

LI = low inductance
NI = normal inductance

AAF267-005 01   NR3..3.3ES2   T03
   level nom real measure
       m

inner tape spacing   b_tape
       b_{tape}

The nominal distance (in m) between the inside of the two tapes used for taped products with axial leads.

IEC 60286-1 (1997)

AAF268-005 01   M..3   A53
   simple non-quantitative code

orientation   orientation

Code of the longitudinal orientation of taped products.

F = forward
R = reverse

REMARKS:
The orientation applies to:
 a) the anode of polarised components.
 b) the collector/drain of transistors.
 c) terminal number one of components with more than three terminals

| AAF269-005 | 02 | M..3 | A53 |
| | simple | non-quantitative code | |

marking method   **marking method**

Code of the marking method on the packing of products.

BAR = bar coded
CHA = character coded
COL = colour coded

| AAF270-005 | 01 | M..3 | A53 |
| | simple | string | |

packing level   **@packing level**

Code of the packing level for products.

NOTE
The first level of packing is that enclosing one or more products. Subsequent higher levels of packing enclose one, or more, of the immediately lower level of packing.

REMARKS:
This data element must be used in combination with AAE111 (packing type) Values can be:
 1 = first level
 2 = second level
 3 = third level   etc.

| AAF271-005 | 01 | M..8 | A58 |
| | simple | non-quantitative code | |

screen shape   **screen shape**

Name indicating the shape of the screen of a TV picture or monitor tube.

CONVEX   = conventional
FLAT   = flat (face-plate radius > 1000 mm)
FLATSQR = flat square (as flat but
            with corner radius 10mm)

| AAF272-005 | 01 | NR1..4 | T03 |
| | level nom | integer measure inch | |

tube size (inch)   **d_gls(i)**
                              $d_{gls(i)}$

The nominal overall outer diagonal (in inch) of the glass envelope of a display tube, used as product identification.

| AAF273-005 | 02 | M..8 | A58 |
| | simple | non-quantitative code | |

display format   **display format**

Name of the display format for which the deflection unit of a monitor display tube is designed.

landscape = landscape (horizontal)
portrait   = portrait (vertical)

| AAF274-005 | 01 | NR3..3.3ES2 | F03 |
| | level max | real measure Hz | |

line frequency   **f_line**
                            f_{line}

The maximum line frequency (in Hz) which may be applied to a deflection unit for monitor tubes, at specified ambient temperature.

AAE014-005 = ambient temperature

REMARKS:
The line frequency is limited by the maximum operating copper temperature of the deflection coils.

| AAF275-002 | 01 | NR1..4 | H02 |
| | level nom | integer measure Cel | |

junction stress temperature   T_stress(junc)
virtual junction stress temperature $T_{stress(junc)}$

The nominal junction temperature (in Cel) of a transistor, diode, trigger device, optoelectronic device or integrated circuit during stress.

| AAF276-002 | 01 | NR1 S..4 | H02 |
| | level min | integer measure Cel | |

stress temperature min T_stress(min)
                          $T_{stress(min)}$

The minimum temperature (in Cel) applied to a component during cycle stress.

REMARKS:
See AAF277-002 for the maximum stress temperature.

AAF277-002 01   **NR1 S..4**   **H02**
         level max   integer measure
                      Cel

stress temperature max T_stress(max)
                      $T_{stress(max)}$

The maximum temperature (in Cel) applied to a component during cycle stress.

REMARKS:
See AAF276-002 for the minimum stress temperature.

AAF278-002 03   **NR1 S..4**   **H02**
         level nom   integer measure
                      Cel

stress ambient temperature   T_stesss(amb)
stress ambient free air temperature $T_{stress(amb)}$

The nominal ambient free air temperature (in Cel) applied to a component during high temperature life test.

AAF279-002 01   **NR1..4**   **K02**
         level nom   integer measure
                      %

stress relative humidity RH_stress
                      RH_{stress}

The nominal value of the ambient humidity (in %) relative to saturation humidity, applied to a component during humidity resistance stress.

REMARKS:
Relative humidity: Actual humidity by volume, divided by humidity by volume at saturation, at the same temp.
Humidity by volume: Mass of water vapour divided by the volume of the gaseous mixture.

AAF281-005 01   **NR1..4**   **E06**
         level max   integer measure
                      V

limiting element voltage (ac)   U_max(ac)
limiting voltage (ac) $U_{max(ac)}$

The maximum limiting ac voltage (in V) that may be applied to a resistor.

AAF282-005 03   **NR1..4**   **H01**
         level nom   integer measure
                      %

thermal sensitivity tolerance   B_25/85(tol)
B_25/85 tolerance $B_{25}/85(tol)$

The nominal tolerance on the thermal sensitivity index (in %) identifying a NTC thermistor.

IEC 60539-1 (2002)

REMARKS:
Used only in cases of equal positive and negative tolerance values.

AAF283-005 02   **NR3..3.3ES2**   **T05**
         level nom   real measure
                      m^2

minimum cross-sectional area A_min
                      A_{min}

The nominal value of the minimum cross-sectional area (in m^2) of a soft magnetic part.

AAF284-005 01   **NR1..4**   **E17**
         simple   integer measure
                      A/m

magnetic field strength @H
                      @H

The magnetic field strength (in A/m) applied to a magnetic part or magnetic material as a variable.

AAF286-005 01   **NR3..3.3ES2**   **K02**
         level nom   real measure
                      kg/m^3

density   **$r_d**
                      ρ_d

The nominal density (in kg/m^3) of a material.

AAF287-005 01   **NR1..4**   **E17**
         level minTypMax integer measure
                      A/m

coercivity H_cB   **H_cB**
                      H_{cB}

The value as specified by level (minTypMax) of the magnetic field strength (in A/m) applied to a hard magnetic material, necessary to bring the flux density from saturation to zero by a monotonically changing field.

IEC 60050 (221) (1990)

AAF288-005   01   NR1..4   E17
          level minTypMax integer measure
                          A/m

coercivity H_cJ   H_cJ
                          H_{cJ}

The value as specified by the level (minTypMax) of the magnetic field strength (in A/m) applied to a hard magnetic material, necessary to bring the polarisation from saturation to zero by a monotonically changing field.

IEC 60050 (221) (1990)

AAF289-005 01   NR3..3ES2   E17
          level nom real measure
                    A/m

field strength at (BH)_max   H_d
                          H_d

The nominal value of the magnetic field strength (in A/m) at which the BH product of a hard magnetic material is maximum.

AAF290-005 01   NR3..3ES2   E17
          level min real measure
                    A/m

saturation field strengthH_s
                          H_s

The minimum value of the magnetic field strength (in A/m) at saturation magnetisation of a hard magnetic material.

AAF291-005 01   NR3 S..3.3ES2   H03
          level typ real measure
                    (A/m)/K

temperature coefficient H_cJ $a_HcJ
                          α_{HcJ}

The typical value of the mean temperature coefficient of the polarisation coercivity (in (A/m)/K) of a hard magnetic material over a temperature range, between specified temperatures (T_1 and T_2).

AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

$$\alpha_{HcJ} = \frac{H_{cJ}2 - H_{cJ}1}{(T_2 - T_1)}$$

where H_{cJ1} and H_{cJ2} are the coercivities at temperature T_1 and T_2 respectively.

AAF292-005   01   NR3..3.3ES2   E19
          level minTypMax   real measure
                          T

remanent flux density   B_r
remanence B_r

The value as specified by level (minTypMax), of the flux density (in T) remaining in a magnetised hard magnetic material when, in the absence of a self-demagnetising field, the magnetic field strength is brought to zero.

IEC 60050 (221) (1990)

AAF293-005 01   NR3..3.3ES2   E19
          level nom   real measure
                          T

flux density at (BH)_max   B_d
                          B_d

The nominal value of the magnetic flux density (in T) at which the BH product of a hard magnetic material is maximum.

AAF294-005 02   NR1..4   E25
          level nom integer measure
                          1

recoil permeability $m_rec
                          μ_{rec}

The nominal value of the permeability corresponding to the slope of the recoil line of a hard magnetic material.

NOTE
The recoil line is a straight line approximating the sub-hysteresis loop which is traversed when the magnet is saturated and then subjected to demagnetising fields less than the coercivity.

IEC 60050 (221) (1990)

AAF295-005 01   NR3..3.3ES2   E30
level minTypMax   real measure
J/m^3

BH product max   BH_max
BH$_{max}$

The value as specified by level (minTypMax), of the maximum product of the magnetic flux density and magnetic field strength (in J/m^3) attained on the demagnetisation curve of a hard magnetic material.

NOTE
The BH product is equal to twice the total energy stored in the external field of the magnet per unit volume of the magnet.

IEC 60050 (221) (1990)

AAF296-005 01   NR3..3.3ES2   E30
level minTypMax   real measure
J/m^3

B_r x H_cJ product   B_rxH_cJ
B$_r$ x H$_{cJ}$

The value as specified by the level (minTypMax), of the product of remanent flux density B$_r$ and coercivity H$_{cJ}$ (in J/m^3) of a hard magnetic material

AAF297-005 01   NR3 S..3.3ES2   H03
level typ   real measure
%/K

temperature coefficient Br $a_Br
α$_{Br}$

The typical value of the mean temperature coefficient of the remanence relative to the remanence at the reference temperature (in %/K) of a hard magnetic material over a temperature range, between specified temperatures (T$_1$ and T$_2$).

AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

$$\alpha_{Br} = \frac{B_r1 - B_r2}{B_{rref}(T_2 - T_1)}$$

where B$_{r1}$ and B$_{r2}$ are the remanences at temperatures T$_1$ and T$_2$ respectively.

AAF298-005 02   NR3..3.3ES2   E25
level max   real measure
1

loss factor   tan$d/$m_r
tan δ/μ$_r$

The maximum value of the tangent of the magnetic loss angle divided by the relative permeability of a soft magnetic material at specified ambient temperature and frequency.

AAE014-005 = ambient temperature
AAE029-005 = frequency

$$\frac{\tan \delta}{\mu_r} = \frac{\mu''}{(\mu')^2}$$

IEC 60050 (221) (1990)

AAF299-005 02   NR3..3.3ES2   E25
level max   real measure
1

disaccommodation factor   D_F
D$_F$

The maximum fractional decrease of permeability of a soft magnetic material over a time interval between T$_1$ and T$_2$ after demagnetisation divided by the permeability at T$_1$ and by the logarithm of t$_2$/t$_1$.

AAE014-005 = ambient temperature
AAF312-005 = time t_1
AAF313-005 = time t_2

$$D_F = \frac{\mu_1 - \mu_2}{(\mu_1)^2 \lg \frac{t_2}{t_1}}$$

where μ$_1$ and μ$_2$ are the values of the relative permeability at the beginning and the end of the given interval respectively.

IEC 60050 (221) (1990)

AAF300-005	01	NR2..3.3	H07
	level max	real measure	
		W/m³	

specific total loss　　**P_V**
total loss volume density　P_V

The maximum total power absorbed divided by the volume (in W/m³) of a soft magnetic material at specified frequency, ambient temperature and peak flux density.

NOTE
The total loss may include: eddy current loss, hysteresis loss, rotational hysteresis loss, residual loss, gyromagnetic resonance loss.

AAE014-005 = ambient temperature
AAE029-005 = frequency
AAE768-005 = peak flux density

IEC 60050 (221) (1990)

AAF301-005	02	NR3..3.3ES2	T07
	level max	real measure	
		s	

reverse recovery time (I)　　**t_rr(I)**
　　$t_{rr(I)}$

The maximum reverse recovery time (in s) of a diode, when switched from a specified forward current to a specified reverse current at specified junction temperature.

AAE271-005 = junction temperature
AAE274-005 = forward current
AAE994-005 = reverse current

IEC 60747-2 (2000)

AAF302-005	01	NR3 S..3.3ES2	E06
	level min	real measure	
		V	

breakdown voltage　　**V_(BR)R**
　　$V_{(BR)R}$

The minimum breakdown voltage (in V) at which a diode will commence avalanche breakdown, at specified reverse current and temperature of a temperature type.

AAE683-005 = temperature type
AAE685-005 = temperature
AAE994-005 = reverse current

REMARKS:
Sometimes measured under pulsed conditions to avoid excessive dissipation.

AAF303-005	01	NR3..3.3ES2	E09
	level minTypMax	real measure	
		F	

diode upper capacitance　　**C_d1**
　　C_{d1}

The value as specified by level (minTypMax) of the upper capacitance (in F) between the terminals of a variable capacitance diode at specified values of the lower reverse voltage, frequency and temperature of a temperature type.

AAE029-005 = frequency
AAE683-005 = temperature type
AAE685-005 = temperature
AAE961-005 = voltage V_1

REMARKS:
A variable capacitance diode varies its characteristic capacitance from a high value to a lower value when the applied reverse voltage increases from a low value to a higher value and vice versa.

AAF304-005	01	NR3..3.3ES2	E09
	level minTypMax	real measure	
		F	

diode lower capacitanceC_d2
　　C_{d2}

The value as specified by level (minTypMax) of the lower capacitance (in F) between the terminals of a variable capacitance diode at specified values of the upper reverse voltage, frequency and temperature of a temperature type.

AAE029-005 = frequency
AAE683-005 = temperature type
AAE685-005 = temperature
AAE962-005 = voltage V_2

REMARKS:
A variable capacitance diode varies its characteristic capacitance from a high value to a lower value when the applied reverse voltage increases from a low value to a higher value and vice versa.

AAF305-005 01   X..3   A56
         simple   non-quantitative code

category of diode device   diode device

Code of the category to which a diode device belongs.

BRI   = bridge rectifier
DIO   = diode
VMP   = voltage multiplier

AAF306-005 01   NR3..3ES2   E25
         level max real measure
                    T^{-1}

hysteresis material constant $h_B
                         η_B

The maximum value of the loss factor due to hysteresis divided by the peak value of the flux density (in T^{-1}) of a soft magnetic material, operating in the Rayleigh region, at specified ambient temperature and frequency.

AAE014-005 = ambient temperature
AAE029-005 = frequency

$$\eta = \frac{\tan \delta_h}{\mu_r B_{peak}}$$

where $\tan\delta_h/\mu_r$ is the loss factor due to hysteresis and B_{peak} the value of the flux density.

IEC 60050 (221) (1990)

REMARKS:
Rayleigh region: In the graphic representation of the relation between the magnetic flux density and the magnetic field strength in a material, a region near the origin within which the flux density can be described by a quadratic function of the field strength.

AAF307-005 02   NR3 S..3.3ES2   E25
         level minTypMax real measure
                          K^{-1}

temperature factor of permeability $a_F
temperature factor of reluctivity α_F

The value as specified by level (minTypMax) of the negative of the change in the permeability due to a change in temperature, divided by that change in temperature (in K^{-1}) of a soft magnetic material at specified frequency.

AAE029-005 = frequency

$$\alpha_F = -\frac{\frac{1}{\mu_\theta}-\frac{1}{\mu_{ref}}}{\theta-\theta_{ref}} = \frac{\mu_\theta-\mu_{ref}}{\mu_\theta\mu_{ref}(\theta-\theta_{ref})}$$

where μ_Θ and μ_{ref} are the permeabilities at temperatures Θ and Θ_{ref} respectively.

IEC 60050 (221) (1990)

AAF308-005 01   NR3..3.3ES2   E19
         level typ real measure
                    T

saturation flux density   B_s
                         B_s

The typical value of the magnetic flux density (in T) at saturation of a soft magnetic material at specified ambient temperature.

ANSI/IEEE Std 100 (1988)

REMARKS:
1 Saturation:
The state of a material subjected to an external magnetic field so strong that the magnetic polarisation cannot be substantially increased by increasing that field.
IEC 60050 (901) (1996)
2 The saturation magnetisation is equal to the spontaneous magnetisation.

AAF309-005 01   M..17   A52
         simple   string

accessory name   accessory name

Name of the accessory of a soft magnetic part to be used in the assembly of inductors and transformers.

AAF311-007 01   X..8   A57
            simple   non-quantitative code

material type   material type

Code of the type of material.

ACO = acoustical
DIEL = dielectric and insulating
MG   = magnetic
OP   = opticalc
PWL = printed-wiring laminate
TH   = thermal-electric

AAF312-005 02   NR3..3ES2   T07
            simple   real measure
                            s

time t_1   @t_1
                        $@t_1$

The begin time t_1 (in s) of a time interval during which a quantity is applied to a product, as a variable.

REMARKS:
See AAF313-005 for the end time t_2.

AAF313-005 02   NR3..3ES2   T07
            simple   real measure
                            s

time t_2   @t_2
                        $@t_2$

The end time t_2 (in s) of a time interval during which a quantity is applied to a product, as a variable.

REMARKS:
See AAF312-005 for the start time t_1.

AAF314-005 01   NR3..3ES2   E06
            level max   real measure
                            V

focusing voltage limiting   V_foc(lim)
                        $V_{foc(lim)}$

The design maximum limiting value of the direct voltage (in V), on grid 3 with respect to grid 1, for focusing of a colour display tube.

AAF315-005 01   NR3..3ES2   E06
            level max   real measure
                            V

anode voltage limiting   V_a(lim)
                        $V_{a(lim)}$

The maximum limiting direct voltage (in V) on the anode of a display tube.

AAF316-001 01   NR3..3ES2   T03
            level nom   real measure
                            m

hole pitch   p_hole
                        p_{hole}

The nominal pitch (in m) of the holes of an electric/electronic or electromechanical component parallel to the x-coordinate.

AAF317-001 01   NR3..3ES2   T03
            level miNoMax   real measure
                            m

flange length   l_flange
                        l_{flange}

The value as specified by level (miNoMax) of the length (in m) of the flange of a component in the x-direction.

AAF318-001 01   NR3..3ES2   T03
            level miNoMax   real measure
                            m

flange breadth   b_flange
                        B_{flange}

The value as specified by level (miNoMax) of the breadth (in m) of the flange of a component in the y-direction.

AAF319-001 01   NR3..3ES2   T03
            level miNoMax   real measure
                            m

flange height   h_flg
                        h_{flg}

The value as specified by level (miNoMax) of the height (in m) of the flange of an electric/electronic or electromechanical component.

AAF320-001 01   NR3..3.3ES2   T03
                  level miNoMax   real measure
                                     m

body diameter   d_body
                          d_{body}

The value as specified by level (miNoMax) of the
diameter (in m) of the body of an electric/electronic
or electromechanical component.

AAF321-001 01   NR3..3.3ES2   T03
                  level nom   real measure
                                     m

pitch (x-axis)   p_x
                          p_x

The nominal pitch (in m) of the terminals of an
electric/electronic or electromechanical component
parallel to the x-coordinate.

AAF322-001 01   NR3..3.3ES2   T03
                  level nom   real measure
                                     m

pitch (y-axis)   p_y
                          p_y

The nominal pitch (in m) of the terminals of an
electric/electronic or electromechanical component
parallel to the y-coordinate.

AAF323-005 01   M..8   A56
                  simple   non-quantitative code

interface compatibility   compatibility

The interface compatibility of the digital IC inputs
and outputs with the peripheral circuits.

CMOS   = directly compatible with CMOS circuits.
TTL   = directly compatible with TTL circuits.

AAF324-005 01   M..35   A56
                  simple   non-quantitative code

instruction set   instruction set

Code identifying the instruction set of an IC
microcontroller or microprocessor.

68000   = instruction set 68000
8048   = instruction set 8048
8048 enh = enhanced instruction set 8048
8051   = instruction set 8051

AAF325-005 01   M..35   A56
                  simple   non-quantitative code

interrupt type   interrupt type

Code identifying the interrupt type of a
microcontroller or microprocessor.

external = externally vectored
internal = internally vectored
maskable = maskable
non-mask = non-maskable
priority = priority
software = software generated

AAF326-005 01   M..17   A56
                  simple   non-quantitative code

addressing mode   addressing mode

Code identifying the addressing modes of a
microcontroller or microprocessor.

direct a   = direct address
immediat   = immediate address
indexed   = indexed address
indirect   = indirect address
relative   = relative address

AAF327-005 01   NR3..3.3ES2   J01
                  level nom   real measure
                                     1

on-chip memory   n_word(on-chip)
                          $n_{word(on-chip)}$

The number of words specifying the size of an on-
chip memory function of a microcontroller, of a
specified storage type.

AAF334-005 = storage type

AAF328-005 01   NR1..4   J01
                  level nom   integer measure
                                     bit

I/O bus width   I/O bus width
                          I/O bus width

The width of the address bus (in bit) of a
microcontroller or microprocessor, to supply an
address for I/O purposes.

AAF329-005	02	NR1..4	Q56
	level nom	integer measure	
		1	

number of peripherals n_peri

n_{peri}

Number of peripherals of a microcontroller of a specified peripheral type.

AAF335-005 = peripheral type

AAF330-005	01	NR1..4	Q62
	level nom	integer measure	
		bit	

peripheral word size **peri word size**

peri word size

The number of bits applicable to a peripheral on a microcontroller of a specified peripheral type.

AAF335-005 = peripheral type

AAF331-006	01	NR3..3.3ES2	T07
	level max	real measure	
		s	

refresh time interval **t_rf**
refresh time t_{rf}
refresh period t_{ref}

The maximum time interval (in s) between the beginnings of successive signals that are intended to restore the level in a DRAM cell to its original level, in a temperature range between specified temperatures (T_1 and T_2).

AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

JESD 100B.01 (2002)

AAF332-005	03	NR3 S..3.3ES2	E01
	level minTypMax	real measure	
		A	

data retention current **I_DDR**

I_{DDR}

The value as specified by level (minTypMax) of the supply current (in A) during data retention of an SRAM at specified supply voltage and an ambient temperature range between specified temperatures (T_1 and T_2).

AAE102-005 = supply voltage
AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

AAF333-005	01	NR2 S..3.3	E06
	level min	real measure	
		V	

data retention voltage **V_DDR**

V_{DDR}

The minimum supply voltage (in V), applied to an SRAM, for which data integrity is guaranteed.

AAF334-005	01	M..8	A56
	simple	non-quantitative code	

storage type **@storage-type**

Code of the type of on-chip storage of a microcontroller.

EEPROM   = electrically erasable ROM
MROM   = mask programmed ROM
RAM   = RAM
UVPROM   = UV erasable ROM

AAF335-005	01	M..3	A56
	simple	non-quantitative code	

peripheral type **@peri type**

Code of the peripheral type of a microcontroller.

TIM = timer
ADC = analogue-digital converter
INT = external interrupt line
PIO = parallel I/O port
PWM = pulse-width modulated output line
SIO = serial I/O port

AAF336-005 01   NR3 S..3.3ES2   E01
    level max   real measure
              A

standby current chip disabled I_SB
standby current I_{SB}
              I_{SBL}
              I_{SBLL}

The maximum standby supply current (in A) of an SRAM with the chip disabled, at specified input voltage, in a temperature range between specified temperatures (T_1 and T_2).

AAE224-005 = input voltage
AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

REMARKS:
Some static RAM's (SRAMS) are selected on standby current. These selections have then as suffix L and LL. The symbols of the respective standby current are then S_{BL} and S_{BLL}.

AAF337-001 01   NR3..3.3ES2   T03
    level nom   real measure
              m

pitch circle diameter   d_p
                  d_p

The nominal diameter (in m) of the pitch circle of the terminals of an electric, electronic or electromechanical component.

AAF338-001 01   NR3..3.3ES2   T03
    level nom   real measure
              m

terminal breadth   b_term
                  b_{term}

The nominal breadth (in m) of the terminals of an electric, electronic or electromechanical component.

AAF339-001 01   NR3..3.3ES2   T03
    level nom   real measure
              m

terminal thickness   t_term
                  t_{term}

The nominal thickness (in m) of the terminals of an electric, electronic or electromechanical component.

AAF340-001 01   NR3..3.3ES2   T03
    level nom   real measure
              m

offset (y-axis)   s_y
                  s_y

The nominal offset (in m) of the terminals of an electric, electronic or electromechanical component parallel to the y-coordinate.

AAF341-001 01   NR3..3.3ES2   T03
    level nom   real measure
              m

offset (x-axis)   s_x
                  s_x

The nominal offset (in m) of the terminals of an electric, electronic or electromechanical component parallel to the x-coordinate.

AAF342-001 01   NR3..3.3ES2   T03
    level miNoMax   real measure
              m

flange diameter   d_flg
                  d_{flg}

The value as specified by level (miNoMax) of the diameter (in m) of the flange of an electric/electronic or electromechanical component.

AAF343-001 01   M..3   A52
    simple   non-quantitative code

mounting method   mounting-method

Code of the mounting method of an electric/electronic or electromechanical component.

A   = surface mounted
B   = inserted
C   = flange mounted
D   = stud mounted

AAF344-001	01	M..3	A58
	simple	non-quantitative code	

body shape   body-shape

Code of the shape of the body of an electric/electronic or electromechanical component.

A = rectangular
B = elliptical shaped
C = horizontal cylindrical
D = vertical cylindrical
E = spherical
F = can shaped
G = vert cylindrical hex flange
H = vert cylindrical oval flange
J = vert cylindrical circ flange
K = rectangular rectangular flange
L = vert cylindrical rect flange

AAF345-001	01	M..3	A58
	simple	non-quantitative code	

terminal exit position SMD   term-exit-posit

Code indicating the exit position of the terminals of an electric/electronic or electromechanical component.

A = single 3
B = end
C = radial
D = dual 3 (1+2)
E = dual 4 (2+2)
F = dual 4 (1+3)
G = dual n
H = triple
J = quad

AAF346-001	02	M..3	A58
	simple	non-quantitative code	

terminal exit position non-SMD   term-exit-SMD

Code indicating the exit position of the terminals of electric/electronic or electromechanical components.

A = axial
B = radial
C = two terminals on axis
D = two terminals offset
E = diagonal
F = on circle
G = four (x+y)
H = upper
J = one row
K = dual
L = grid array

AAF347-001	02	M..3	A58
	simple	non-quantitative code	

terminal shape non-SMD   term-shape

Code of the terminal shape of an electric/electronic or electromechanical component.

A = straight
B = 90 deg bend
C = 180 deg bend
D = SIL offset bend
E = DIL staggered bend
F = DIL staggered offset bend
G = QUIL staggered offset bend

AAF348-001	01	M..3	A58
	simple	non-quantitative code	

terminal shape SMD   term-shape-SMD

Code of the terminal shape of an electric/electronic or electromechanical component.

A = straight
B = gull wing
C = J-bend
D = J-inverted bend
E = S-bend
F = wraparound
G = C-bend
H = cap
J = metallized

AAF349-001	01	NR3..3.3ES2	E33
	level min	real measure	
		Ω	

insulation resistance   R_ins
R_{ins}

The minimum insulation resistance (in ohms) of a fixed resistor measured according to the V-block method at specified direct voltage.

AAE013-005 = voltage (dc)

IEC 60115-1 (2001)

REMARKS:
The insulated resistance shall be measured according to the V-block method described in IEC 60115-1.

AAF350-001 01 **NR3 S..3.3ES2** **H03**
level minMax real measure
K^{-1}

temperature coefficient TC
TC

The value as specified by the level (minMax) of the temperature coefficient (in K^{-1}) of a fixed resistor in the temperature range between specified temperatures (T_1 and T_2).

AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

IEC 60115-1 (1999)

AAF351-001 01 **NR1..4** **Q56**
level nom integer measure
1

number of holes **N_hole**
N_{hole}

The number of holes in an electric, electronic or electromechanical component.

AAF352-001 01 **M..3** **A52**
simple non-quantitative code

basic aspect **basic aspect**

Code of the basic aspect of the shape of an electric/electronic or electromechanical component.

BSH = body shape
MMT = mounting method
TPN = terminal exit position non SMD
TPS = terminal exit position SMD
TSN = terminal shape non SMD
TSS = terminal shape SMD

AAF353-001 01 **M..8** **A58**
simple string

size code EIA **size-EIA**

EIA code of the size of an electric/electronic component for placement on printed wiring board.

REMARKS:
The complete code consists of four numerical characters.
a) the first two numerical characters represent the value of the length in inches.
b) the second two numerical characters represent the value of the width in inches.

AAF356-001 01 **M..8** **A58**
simple non-quantitative code

reference view **ref view**

The code indicating the angle of vision on a component.

BOTTOM = bottom
FRONT = front
SIDE = side
TOP = top

AAF357-001 01 **M..3** **A56**
simple string

terminal identifier **terminal id**

The character used to identify a specific terminal of a component.

REMARKS:
Rules should be established how the identifying process should take place.

AAF358-001 01 **M..3** **A56**
simple string

swapability indicator **swap ind**

The mark that indicates whether the terminal pairs or terminal groups of one function or one component may be exchanged.

REMARKS:
Rules should be established for the identification of swapable terminal pairs respectively terminal groups.

AAF359-001 01 **M..3** **A56**
simple string

permutability indicator perm ind

The mark that indicates whether the terminals of one function or one component may be exchanged.

REMARKS:
Rules should be established for the identification of permutable terminals.

| AAF360-001 | 01 | NR3..3.3ES2 | E09 |
| | level nom | real measure F | |

max range value   **max range value**
max range value

The maximum value of nominal capacitance (in F) of a capacitor that is available within a specific E-series.

| AAF361-001 | 01 | NR3..3.3ES2 | E09 |
| | level nom | real measure F | |

min range value   **min range value**
min range value

The minimum value of nominal capacitance (in F) of a capacitor that is available within a specific E-series.

| AAF362-001 | 01 | NR3..3.3ES2 | T03 |
| | level nom | real measure m | |

centre of gravity (x-axis)   **C_grav(x-axis)**
$C_{grav(x-axis)}$

The nominal value of the x-displacement (in m) of the centre of gravity of a component related to the reference point of that component.

| AAF363-001 | 01 | NR3..3.3ES2 | T03 |
| | level nom | real measure m | |

centre of gravity (y-axis)   **C_grav(y-axis)**
$C_{grav(y-axis)}$

The nominal value of the y-displacement (in m) of the centre of gravity of a component related to the reference point of that component.

| AAF364-001 | 01 | M..17 | A91 |
| | simple | non-quantitative code | |

probability distribution prob distr

The name of a function giving the probability that a random variable takes any given value or belongs to a given set of values.

NOTE
The probability on the whole set of values of the random variable equals 1.

BINOMIAL = binomial distribution
NORMAL   = normal distribution
         (Laplace-Gauss)
POISSON = Poisson distribution

| AAF365-001 | 01 | NR3..3.3ES2 | Q59 |
| | level nom | real measure 1 | |

normal average value   **$m**
μ

The value of the average in a Normal (Laplace-Gauss) probability distribution.

| AAF366-001 | 01 | NR3..3.3ES2 | Q59 |
| | level nom | real measure 1 | |

normal standard deviation   **$s**
σ

The value of the standard deviation in a Normal (Laplace-Gauss) probability distribution.

| AAF367-001 | 01 | NR3..3.3ES2 | Q59 |
| | level nom | real measure 1 | |

Poisson variance value m
m

The value of the variance in a Poisson probability distribution.

| AAF368-001 | 01 | NR3..3.3ES2 | Q59 |
| | level nom | real measure 1 | |

Poisson expectation value   **m**
m

The value of the expectation in a Poisson probability distribution.

| AAF369-001 | 01 | NR2..3.3 | E06 |
| | level nom | real measure 1 | |

test voltage coefficient k_V(test)
$k_{V(test)}$

The factor by which the rated voltage has to be multiplied to obtain the value of the test voltage to be applied to a device under test.

CECC 30.000

AAF370-001 01 M..17 A59
simple string

MIL specification MIL spec

MIL code of the specification in which an electric, electronic or electromechanical component is released under the MIL quality assessment system.

MIL 883-B

REMARKS:
MIL : Military specification or standard (USA)
Quality assessment :
The continuous surveillance of the manufacturer of a product to ensure that it conforms to the requirements of the specification to which it was made.

AAF371-001 01 M..8 A58
simple non-quantitative code

adjuster placement adjuster-place

Code of the placement of an adjuster on an electric, electronic component for placement on printed-circuit boards.

```
BACK      = back      +Y axis
BOTTOM    = bottom    -Z axis
FRONT     = front     -Y axis
LEFT      = left      -X axis
RIGHT     = right     +X axis
TOP       = top       +Z axis
```

AAF372-001 01 M..8 A58
simple non-quantitative code

preformed lead preformed lead

Code of the preforming of leads to create a distance between the component and the seating-plane.

```
BENT        = bent (90 deg)
CROPPED     = cropped
FLANGE      = with flange
SHOULDER    = shouldered
SNAPIN      = snap-in
SPACED      = spaced
STRAIGHT    = straight
```

AAF373-001 01 NR1..4 Q56
level nom integer measure
1

number of studs N_std
N_{std}

The number of studs on an electric/electronic or electromechanical component designed for fastening.

AAF374-001 01 NR1..4 Q56
level nom integer measure
1

number of pitches (x-axis) N_p(x)
$N_{p(x)}$

The number of pitches between the terminals of an electric/electronic or electromechanical component parallel to the x-coordinate.

AAF375-001 01 NR1..4 Q56
level nom integer measure
1

number of pitches (y-axis) N_p(y)
$N_{p(y)}$

The number of pitches between the terminals of an electric/electronic or electromechanical component parallel to the y-coordinate.

AAF376-001 01 M..3 A58
simple non-quantitative code

terminal cross-section shape term-cross-shp

Code of the cross-section shape of the terminals of an electric/electronic or electromechanical component.

```
CIR   = circular
REC   = rectangular
```

AAF388-001 01 M..17 A58
simple string

case size case size

Combination of the reference to a coding system for case sizes and the code of a specific case size within that system of a component.

REMARKS:
Example of a format for the reference to a JEDEC publication: JESD30(PLCC)

AAF389-001 01 **NR1..4** **H07**
level max integer measure
W

non-rep peak reverse power diss **P_ZSM**
P_{ZSM}
P

The maximum non-repetitive peak reverse power dissipation (in W) of a stabilising diode at an exponential current function with specified front time, time to half-value and junction temperature prior to the application of the pulse.

AAE271-005 = junction temperature
AAE332-005 = virtual front time
AAE333-005 = virtual time to half-value

REMARKS:
Current pulse according to the specification given in IEC 60060-1, section 8 (1989).

AAF390-002 01 **X..8** **A56**
simple non-quantitative code

type of inductor **inductor-type**

Code identifying the function or application for which the inductor has been developed initially.

ANT = antenna inductors
CHOKE = choke
COIL = coil
DFL = deflection coil
LINUNIT = linearity control unit
SOL = solenoids

AAF391-001 02 **X..3** **A56**
simple non-quantitative code

connect-node code **conn-node code**

Code of the type of connect node of a component

E = electrical
F = functional
L = linkage
M = matter(material)
MG = gaseous
ML = liquid
MS = solid
O = optical fibre
W = wave propagation

AAF392-001 01 **X..8** **A58**
simple non-quantitative code

project view code **proj-view code**

Coded abbreviation of the two dimensional projection view of an item.

ABOVE = view from above
BELOW = view from below
FRONT = view from the front
LEFT = view from the left
REAR = view from the rear
RIGHT = view from the right

REMARKS:
The reference point for all projection views shall be defined as the centre of the view from the front at the seating plane.

AAF393-001 04 **NR3..3.3ES2** **T03**
level miNoMax real measure
m

x-coordinate of **x-coor ref pt**
the reference point x-coor ref point

The value as specified by level (miNoMax) of the distance on the x-axis (in m) of the reference point to the zero-point.

AAF394-001 04 **NR3..3.3ES2** **T03**
level miNoMax real measure
m

y-coordinate of **y-coor ref pt**
the reference point y-coor ref point

The value as specified by level (miNoMax) of the distance on the y-axis (in m) of the reference point to the zero-point.

AAF395-001 04 **NR3..3.3ES2** **T03**
level miNoMax real measure
m

z-coordinate of **z-coor ref pt**
the reference point z-coor ref point

The value as specified by level (miNoMax) of the distance on the z-axis (in m) of the reference point to the zero-point.

AAF396-001	01	NR2..3.3	T03
	level nom	real measure	
		1	

scale   **scale**
scale

The value of the denominator of the ratio of the real things magnitude to the magnitude of the model.

AAF397-001	01	NR3..3.3ES2	T05
	level nom	real measure	
		m^2	

net area   **net area**
net area

The value of the area (in m^2) of a two-dimensional plane defining the effective physical contour of a geometrical object.

AAF398-001	02	NR3..3.3ES2	T05
	level nom	real measure	
		m^2	

gross area   **gross area**
gross area

The value of the area (in m^2) of a two-dimensional plane associated with a geometrical object due to installation, protection, operation, service and maintenance reasons.

REMARKS:
- It encloses completely the net area of the geometrical object.
- The gross area is defined as a plane normally not possible to be occupied by other geometrical objects.

AAF399-001	01	NR3..3.3ES2	T06
	level nom	real measure	
		m^3	

net space   **net space**
net space

The value of the volume (in m^3) of a three-dimensional space defining the effective physical contours of a geometrical object.

AAF400-001	02	NR3..3.3ES2	T06
	level nom	real measure	
		m^3	

gross space   **gross space**
gross space

The value of the volume (in m^3) of a three-dimensional space associated with a geometrical object due to installation, protection, operation, service and maintenance reasons.

REMARKS:
- It encloses completely the net space of the geometrical object.
- The gross space is defined as a plane normally not possible to be occupied by other geometrical objects.

AAF401-001	02	NR3..3.3ES2	T03
	level nom	real measure	
		m	

x-coor preferred mounting position   x-coor pref pos

x-coor pref pos

The value of the distance (in m) on the x-axis of the direction of the preferred mounting position of a component.

AAF402-001	02	NR3..3.3ES2	T03
	level nom	real measure	
		m	

x-coor preferred mounting position   y-coor pref pos

y-coor pref pos

The value of the distance (in m) on the y-axis of the direction of the preferred mounting position of a component.

AAF403-001	02	NR3..3.3ES2	T03
	level nom	real measure	
		m	

z-coor preferred mounting position   z-coor pref pos

z-coor pref pos

The value of the distance (in m) on the z-axis of the direction of the preferred mounting position of a component.

AAF404-001 01   NR2..3.3   T01
level nom   real measure
deg

mounting deviation y/z mount dev y/z
mount dev y/z

Specification of the absolute value of the angle (in deg), indicating the maximum rotation deviation from the y-axis within the y/z plane of the three-dimensional coordinate system, under which the device fulfils its terms of operation.

AAF405-001 01   NR2..3.3   T01
level nom   real measure
deg

mounting deviation y/x mount dev y/x
mount dev y/x

Specification of the absolute value of the angle (in deg), indicating the maximum rotation deviation from the y-axis within the y/x plane of the three-dimensional coordinate system, under which the device fulfils its terms of operation.

AAF406-001 02   NR3..3.3ES2   T03
level miNoMax   real measure
m

x-coordinate position x-coor pos-loc
location   x-coor pos-loc

The value as specified by level (miNoMax) of the length (in m) of the x-coordinate of the location of a point on the symmetry-axis of a constructive solid geometry primitive.

AAF407-001 02   NR3..3.3ES2   T03
level miNoMax   real measure
m

y-coordinate position y-coor pos-loc
location   y-coor pos-loc

The value as specified by level (miNoMax) of the length (in m) of the y-coordinate of the location of a point on the symmetry-axis of a constructive solid geometry primitive.

AAF408-001 02   NR3..3.3ES2   T03
level miNoMax   real measure
m

z-coordinate position z-coor pos-loc
location   z-coor pos-loc

The value as specified by level (miNoMax) of the length (in m) of the z-coordinate of the location of a point on the symmetry-axis of a constructive solid geometry primitive.

AAF409-001 01   NR3..3.3ES2   T03
level nom   real measure
m

cylinder radius   r_cyl
r_{cyl}

The value of the radius (in m) of a cylinder.

AAF410-001 01   NR3..3.3ES2   T03
level miNoMax   real measure
m

cylinder height   h_cyl
h_{cyl}

The value as specified by level (miNoMax) of the distance (in m) between the two planar circular faces of a cylinder.

AAF411-001 02   NR2 S..3.3   T01
level nom   real measure
deg

angle axis to x-axis $a_x
α_x

The value of the angle (in deg) between the orientation of the axis of a constructive solid geometry primitive and the X-axis of the placement coordinate system.

AAF412-001 02   NR2 S..3.3   T01
level nom   real measure
deg

angle axis to y-axis $a_y
α_y

The value of the angle (in deg) between the orientation of the axis of a constructive solid geometry primitive and the Y-axis of the placement coordinate system.

AAF413-001 02   **NR2 S..3.3**   **T01**
level nom   real measure
deg

angle axis to z-axis   **$a_z**
α_z

The value of the angle (in deg) between the orientation of the axis of a constructive solid geometry primitive and the Z-axis of the placement coordinate system.

AAF414-001 01   **NR3..3.3ES2**   **T03**
level nom   real measure
m

cone radius   **r_cone**
r_{cone}

The value of the radius (in m) of the cone on the axis at the top of a right circular cone.

AAF415-001 01   **NR3..3.3ES2**   **T03**
level miNoMax   real measure
m

cone height   **h_cone**
h_{cone}

The value as specified by level (miNoMax) of the distance (in m) between the two planar circular faces of a right circular cone, if the radius is greater than zero: or from the base to the apex if the radius equals zero.

AAF416-001 01   **NR2..3.3**   **T01**
level nom   real measure
deg

semi angle   **$a_semi**
α_{semi}

The value of the angle (in deg) between the axis of the cone and the generator of the conical surface of a right circular cone.

AAF417-001 01   **NR3..3.3ES2**   **T03**
level nom   real measure
m

sphere radius   **r-sphere**
r_{sphere}

The value of the length of the radius (in m) of a sphere.

AAF418-001 01   **NR3..3.3ES2**   **T03**
level miNoMax   real measure
m

x-coordinate of centre   **x-c_sphere**
$x-c_{sphere}$

The value as specified by level (miNoMax) of the distance (in m) on the x-axis of the centre of a sphere.

AAF419-001 01   **NR3..3.3ES2**   **T03**
level miNoMax   real measure
m

y-coordinate of centre   **y-c_sphere**
$y-c_{sphere}$

The value as specified by level (miNoMax) of the distance (in m) on the y-axis of the centre of a sphere.

AAF420-001 01   **NR3..3.3ES2**   **T03**
level miNoMax   real measure
m

z-coordinate of centre   **z-c_sphere**
$z-c_{sphere}$

The value as specified by level (miNoMax) of the distance (in m) on the z-axis of the centre of a sphere.

AAF421-001 01   **NR3..3.3ES2**   **T03**
level miNoMax   real measure
m

major radius of torus   **r_(major-torus)**
$r_{(major-torus)}$

The value as specified by level (miNoMax) of the radius (in m) of the directrix of a torus.

AAF422-001 01   **NR3..3.3ES2**   **T03**
level miNoMax   real measure
m

minor radius of torus   **r_(minor-torus)**
$r_{(minor-torus)}$

The value as specified by level (miNoMax) of the radius (in m) of the generatrix of a torus.

AAF423-001 01   **NR3..3.3ES2**   **T03**
level miNoMax   real measure
m

wedge x-size   **x_wedge**
x_{wedge}

The value as specified by level (miNoMax) of the length (in m) of the right angular wedge along the placement X-axis.

AAF424-001 **01** **NR3..3ES2** **T03**
level miNoMax   real measure
m

wedge y-size **y_wedge**
y_{wedge}

The value as specified by level (miNoMax) of the length (in m) of the right angular wedge along the placement Y-axis.

AAF425-001 01 **NR3..3ES2** **T03**
level miNoMax   real measure
m

wedge z-size **z_wedge**
z_{wedge}

The value as specified by level (miNoMax) of the length (in m) of the right angular wedge along the placement Z-axis.

AAF426-001 01 **NR3..3ES2** **T03**
level miNoMax   real measure
m

major edge **edge_major**
$edge_{major}$

The value as specified by level (miNoMax) of the length (in m) of the edge of the square base plane of a right angular pyramid.

AAF427-001 01 **NR3..3ES2** **T03**
level miNoMax   real measure
m

minor edge **edge_minor**
$edge_{minor}$

The value as specified by level (miNoMax) of the length (in m) of the edge of the square top plane of a right angular truncated pyramid.

AAF428-001 01 **NR3..3ES2** **T03**
level miNoMax   real measure
m

primitive height **h_prim**
h_{prim}

The value as specified by level (miNoMax) of the distance (in m) between the apex and the base plane or between the two parallel planes of a right constructive solid geometry primitive.

AAF429-001 01 **NR3..3ES2** **T03**
level miNoMax   real measure
m

edge-length **l_edge**
l_{edge}

The value as specified by level (miNoMax) of the length (in m) of the edge of a N-edged regular column.

AAF430-001 01 **NR3..3ES2** **T03**
level miNoMax   real measure
m

internal radius **r_inner**
r_{inner}

The value as specified by level (miNoMax) of the length (in m) of the inner radius of a right circular tube.

AAF431-001 01 **NR3..3ES2** **T03**
level miNoMax   real measure
m

external radius **r_outer**
r_{outer}

The value as specified by level (miNoMax) of the length (in m) of the outer radius of a right circular tube.

AAF432-001 01 **NR3..3ES2** **T03**
level miNoMax   real measure
m

minor radius **r_minor**
r_{minor}

The value as specified by level (miNoMax) of the length (in m) of the radius of the circular plane of a spherical segment.

AAF433-001 01 **M..175** **A56**
simple   string

installation instruction **install-instruc**

The text giving additional information with respect to the installation of a component.

AAF434-001 01 **NR3..3ES2** **T03**
level nom   real measure
m

bending radius **r_bend**
r_{bend}

The value, as specified by the manufacturer, of the maximum allowed radius (in m) when bending a conductor or connector into a curve.

AAF435-001   01   M..3   A58
                simple   non-quantitative code

terminal connection type   term-conn-type

Code of the type of connection a terminal or
connector is being designed for

1   = soldered
10   = flat
2   = welded
5   = screwed
6   = wire-wrapped
7   = termi-point
8   = insulation displacement connection

AAF436-001   01   NR2..3.3   T07
                level nom   real measure
                1

simultaneity factor   F_simult
                        F_{simult}

The value of the ratio of 1) the effective time of
handling and 2) the maximum available time of
handling of a component.

AAF437-001   01   NR1..4   Q56
                level nom   integer measure
                1

column type   n_column
number of columns n_{column}

The value indicating the number of corners defining
the column type.

AAF440-001   01   X..8   A52
                simple   non-quantitative code

features   features

Code of a main feature class

CPLX = complex number value
TOL   = toleranced value

AAF441-001   01   X..8   A52
                simple   non-quantitative code

complex numbers   complex nos

Code of a feature class containing values expressed
as complex numbers.

ADM = admittance
IMP   = impedance

AAF442-001   01   X..8   A52
                simple   non-quantitative code

toleranced values   tol values

Code of a feature class containing values with
tolerances.

TOLCAP   = toleranced capacitance
TOLRES   = toleranced resistance

AAF443-001   01   NR2 S..3.3   R71
                level nom   real measure
                %

symmetric tolerance   %tol
percentage tolerance   %tol

The percentage tolerance (in %) on the nominal
value of a characteristic property where both positive
and negative tolerance values are equal.

AAF444-001   01   NR2 S..3.3   R71
                level nom   real measure
                %

negative tolerance   %tol-
                        %tol-

The negative value of the percentage tolerance (in
%) on the nominal value of a characteristic property
where positive and negative tolerance values are
unequal.

AAF445-001   01   NR2 S..3.3   R71
                level nom   real measure
                %

positive tolerance   %tol+
                        %tol+

The positive value of the percentage tolerance (in %)
on the nominal value of a characteristic property
where positive and negative tolerance values are
unequal.

AAF446-001   01   NR3..3.3ES2   E09
                level nom   real measure
                F

capacitance   C
                C

The nominal value of the capacitance (in F) of an
electric component having a capacitance property.

AAF447-001 01   NR3..3.3ES2   E09
level nom   real measure
F

symmetric capacitance tolerance   C_tol
C_{tol}

The absolute tolerance (in F) on the nominal value of the capacitance of an electric component where both positive and negative tolerance values are equal.

AAF448-001 01   NR3..3.3ES2   E09
level nom   real measure
F

negative capacitance tolerance   C_tol-
C_{tol-}

The negative value of the absolute tolerance (in F) on the nominal value of the capacitance of an electric component where positive and negative tolerance values are unequal.

AAF449-001 01   NR3..3.3ES2   E09
level nom   real measure
F

positive capacitance tolerance   C_tol+
C_{tol+}

The positive value of the absolute tolerance (in F) on the nominal value of the capacitance of an electric component where positive and negative tolerance values are unequal.

AAF450-001 01   NR3..3.3ES2   E33
level nom   real measure
Ω

resistance   R
R

The nominal value of the resistance (in ohms) of an electric component having a resistance property.

AAF451-001 01   NR3..3.3ES2   E33
level nom   real measure
Ω

symmetric resistance tolerance   R_tol
R_{tol}

The absolute tolerance (in ohms) on the nominal value of the resistance of an electric component where both positive and negative tolerance values are equal.

AAF452-001 01   NR3..3.3ES2   E33
level nom   real measure
Ω

negative resistance tolerance   R_tol-
R_{tol-}

The negative value of the absolute tolerance (in ohms) on the nominal value of the resistance of an electric component where positive and negative tolerance values are unequal.

AAF453-001 01   NR3..3.3ES2   E33
level nom   real measure
Ω

positive resistance tolerance   R_tol+
R_{tol+}

The positive value of the absolute tolerance (in ohms) on the nominal value of the resistance of an electric component where positive and negative tolerance values are unequal.

AAF454-001 01   NR1 S1..3   E43
level miNoMax   integer measure
deg

phase angle $f
φ

The value as given by level (miNoMax) of the phase angle (in deg) of a complex electrical quantity.

AAF455-001 01   NR3 S..3.3ES2   E43
level miNoMax   real measure
rad

phase angle $f
φ

The value as given by level (miNoMax) of the phase angle (in rad) of a complex electrical quantity.

AAF456-001 01   NR3..3.3ES2   E44
level miNoMax   real measure
Ω

modulus of impedance   Z
absolute value of impedance   Z

The modulus or absolute value as given by level (miNoMax) of the impedance (in ohms) of an electric component having an impedance property.

AAF457-001 01	**NR3..3.3ES2**	**E44**
level miNoMax	real measure
Ω

resistance	**R**
R

The reactive or imaginary part as given by level (miNoMax) of the impedance (in ohms) of an electric component having an impedance property.

AAF458-001 01	**NR3..3.3ES2**	**E44**
level miNoMax	real measure
Ω

reactance	**S**
S

The resistive or real part as given by level (miNoMax) of the impedance (in ohms) of an electric component having an impedance property.

AAF459-001 01	**NR3..3.3ES2**	**E45**
level miNoMax	real measure
S

modulus of admittance Y
absolute value of admittance	Y

The modulus or absolute value as given by level (miNoMax) of the admittance (in S) of an electric component having an admittance property.

AAF460-001 01	**NR3..3.3ES2**	**E45**
level miNoMax	real measure
S

conductance	**G**
G

The reactive or imaginary part as given by level (miNoMax) of the admittance (in S) of an electric component having an admittance property.

AAF461-001 01	**NR3..3.3ES2**	**E45**
level miNoMax	real measure
S

susceptance	**B**
B

The resistive or real part as given by level (miNoMax) of the admittance (in S) of an electric component having an admittance property.

AAF462-001 01	**E09**
class instance	AAA238-001

toleranced capacitance C
C

The value of the capacitance of a fixed capacitor together with its tolerances at specified frequency and at reference conditions.

AAE029-005 = frequency
AAE995-005 = reference conditions

AAF463-001 01	**E33**
class instance	AAA239-001

toleranced resistance R
R

The value of the resistance of a fixed linear resistor together with its tolerances at specified reference conditions.

AAE995-005 = reference conditions

AAF464-001 01	**M..8**	**A56**
simple	non-quantitative code

**connector part type	connector part**

Code of the type of a connector part.

ACCY	= connector accessory
CONTACT	= connector contact
INSERT	= connector insert
SHELL	= connector shell
TOOL	= connector tool

AAF465-001 01	**M..80**	**A56**
simple	string

**accessory type	accessory**

Description of the type of connector accessory.

AAF466-001 01	**M..80**	**A56**
simple	string

**tool type	tool**

Description of the type of tool to be used with a connector.

AAF467-001 01	**M..80**	**A56**
simple	string

**shell type	shell**
housing type

Description of the type of connector shell

AAF468-001 01   **M..80**   **A56**
          simple   string

insert type   **insert**

Description of the type of connector insert

AAF469-001 01   **M..80**   **A57**
          simple   string

insert material   **insert material**

Description of the type of material of which a connector insert is made.

AAG000-001 01   **X..3**   **A52**
          simple   non-quantitative code

geometry type   **geometry type**

Code of the type of geometry possessed by an electric-electronic component.

DIE   = Die devices
PAK   = Package outlines

AAG001-001 01   **NR3..3.3ES2**   **T03**
          level miNoMax   real measure
                         m

seated height   **A**
mounted height   A

The distance (in m) as specified by level (miNoMax) of the furthest part of the component above the seating plane, measured in a direction perpendicular to the plane.

BS3934-1: 1992

DAE001-001 Package length, width and height

AAG002-001 01   **NR3..3.3ES2**   **T03**
          level miNoMax   real measure
                         m

stand-off height   **A_1**
clearance A_1

The perpendicular distance (in m) as specified by level (miNoMax) between the seating plane and the base plane.

BS3934 issue 1 : 1975

DAE001-001 Package length, width and height

AAG003-001 01   **NR3..3.3ES2**   **T03**
          level miNoMax   real measure
                         m

package height   **A_2**
package thickness A_2

The distance (in m) as specified by level (miNoMax) of the furthest part of the component above the base plane, measured in a direction perpendicular to the plane.

BS3934 issue 1 : 1975

DAE001-001 Package length, width and height

AAG004-001 01   **NR3..3.3ES2**   **T03**
          level miNoMax   real measure
                         m

terminal circle diameter $fa
                             Øa

The diameter (in m) as specified by level (miNoMax) of the circle upon which the terminal positions are located.

NOTE
Where there is more than one terminal circle present, Øa is the diameter of the largest circle.

BS3934 issue 1 : 1975

DAE004-001 Cylindrical package dimensions

AAG005-001 01   **NR3..3.3ES2**   **T03**
          level miNoMax   real measure
                         m

stand-off major dimension   B
shoulder width   B

The major dimension (in m) as specified by level (miNoMax) of the cross-section of the stand-off.

NOTE
This dimension applies to a separate stand-off or to the width of the wider section of shouldered terminations which have the effect of standing the component off from the seating plane.

BS3934 issue 1 : 1975

DAE005-001 In-line package dimensions

AAG006-001 01   NR3..3.3ES2   T03
             level miNoMax   real measure
             m

stand-off minor dimension   B_1
shoulder thickness B_1

The minor dimension (in m) as specified by level (miNoMax) of the cross-section of the stand-off.

NOTE
This dimension applies to a separate stand-off or to the thick-ness of the wider section of shouldered terminations which have the effect of standing the component off from the seating plane.

BS3934 issue 1 : 1975

AAG007-001 01   NR3..3.3ES2   T03
             level miNoMax   real measure
             m

stand-off diameter $fB
                      ØB

The diameter (in m) as specified by level (miNoMax) of the cross-section of the stand-off.

BS3934 issue 1 : 1975

AAG008-001 01   NR3..3.3ES2   T03
             level miNoMax   real measure
              m

terminal width   b
lead width   b

The width (in m) as specified by level (miNoMax) of a square terminal or the length of the major axis of a terminal with a rectangular cross-section

NOTE
This dimension applies to that part of the terminal which is or may be used for connection to the circuit in which it is mounted.

BS3934 issue 1 : 1975

DAE005-001 In-line package dimensions

AAG009-001 01   NR3..3.3ES2   T03
             level miNoMax   real measure
              m

terminal diameter $fb
lead diameter   Øb

The diameter (in m) as specified by level (miNoMax) of the circumscribed circle containing the terminal.

BS3934 issue 1 : 1975

REMARKS:
The terminal need not have a circular cross-section.

DAE009-001 Lead lengths and diameters

AAG010-001 01   NR3..3.3ES2   T03
             level miNoMax   real measure
              m

terminal diameter $fb_0
lead diameter $Øb_0$

The diameter (in m) as specified by level (miNoMax) of the circumscribed circle containing the terminal.

NOTE
$Øb_0$ refers to the terminal diameter over the terminal length defined by L_0.

BS3934 issue 1 : 1975

REMARKS:
The terminal need not have a circular cross-section.

DAE009-001 Lead lengths and diameters

AAG011-001 01   NR3..3.3ES2   T03
             level miNoMax   real measure
              m

terminal diameter $fb_2
lead diameter $Øb_2$

The diameter (in m) as specified by level (miNoMax) of the circumscribed circle containing the terminal.

NOTE
$Øb_2$ refers to the terminal diameter over the terminal length defined by $L_2 – L_1$.

BS3934 issue 1 : 1975

REMARKS:
The terminal need not have a circular cross-section.

AAG012-001	01	NR3..3.3ES2	T03
	level miNoMax	real measure	
		m	

terminal thickness   c
lead thickness   c

The length (in m) as specified by level (miNoMax) of the minor axis of a terminal with a rectangular cross-section.

NOTE
This dimension applies to that part of the terminal which is or may be used for connection to the circuit in which it is mounted.

BS3934 issue 1 : 1975

DAE012-001 Terminal splay dimensions

AAG013-001	01	NR3..3.3ES2	T03
	level miNoMax	real measure	
		m	

package length   D
     D

The major dimension (in m) as specified by level (miNoMax) of the package, excluding terminals presented for mounting in the length direction, measured in a plane parallel to the seating plane.

NOTE
If terminals presented for mounting in the width direction extend beyond the ends of the package body the package length includes the width of such terminals.

BS3934 issue 1 : 1975

REMARKS:
If terminals are present on one or two sides of the package only, they are deemed to extend in the width direction.

DAE001-001 Package length, width and height

AAG014-001	01	NR3..3.3ES2	T03
	level miNoMax	real measure	
		m	

package diameter $fD
     ØD

The major diameter (in m) as specified by level (miNoMax) of the package, excluding terminals, measured in a plane parallel to the seating plane.

BS3934 issue 1 : 1975

DAE004-001 Cylindrical package dimensions

AAG015-001	01	NR3..3.3ES2	T03
	level miNoMax	real measure	
		m	

stand-off spacing   d
     d

The linear spacing (in m) as specified by level (miMoMax) between true positions of centres of stand-offs.

BS3934 issue 1 : 1975

AAG016-001	01	NR3..3.3ES2	T03
	level miNoMax	real measure	
		m	

package width   E
     E

The minor dimension (in m) as specified by level (miNoMax) of the package, excluding terminals, measured in a plane parallel to the seating plane.

BS3934 issue 1 : 1975

REMARKS:
If terminals are present on one or two sides of the package only, they are deemed to extend in the width direction.

DAE001-001 Package length, width and height

AAG017-001	01	NR3..3.3ES2	T03
	level miNoMax	real measure	
		m	

terminal spacing   e
lead spacing   e

The linear spacing (in m) as specified by level (miNoMax) between the true positions of terminal centres.

BS3934 issue 1 : 1975

DAE005-001 In-line package dimensions

AAG018-001	01	NR3..3.3ES2	T03
	level miNoMax	real measure	
		m	

flange zone height   F
     F

The overall dimension (in m) as specified by level (miNoMax) of the flange zone, including any fillet, measured in a perpendicular direction from the base plane.

BS3934 issue 1 : 1975

AAG019-001   01   NR3..3.3ES2   T03
level miNoMax   real measure
m

flange height   F_1
flange thickness F_1

The overall dimension (in m) as specified by level (miNoMax) of the flange zone, excluding any fillet, measured in a perpendicular direction from the base plane.

BS3934 issue 1 : 1975

AAG020-001 01   NR3..3.3ES2   T03
level miNoMax   real measure
m

package length zone   G_D
G_D

The length (in m) as specified by level (miNoMax) of a zone in the direction of the package length which includes the package length, package irregularities and the uncontrolled part of any terminals which are presented for mounting in the length direction.

BS3934 issue 1 : 1975

AAG021-001 01   NR3..3.3ES2   T03
level miNoMax   real measure
m

package width zone   G_E
G_E

The length (in m) as specified by level (miNoMax) of a zone in the direction of the package width which includes the package width, package irregularities and the uncontrolled part of any terminals which are presented for mounting in the width direction.

BS3934 issue 1 : 1975

DAE021-001 Package overall widths

AAG022-001 01   NR3..3.3ES2   T03
level miNoMax   real measure
m

package diameter zone $fG
ØG

The diameter (in m) as specified by level (miNoMax) of a zone which includes the package diameter, package irregularities and the uncontrolled part of any terminals which are presented for mounting radially.

BS3934 issue 1 : 1975

AAG023-001   01   NR3..3.3ES2   T03
level miNoMax   real measure
m

overall length   H_D
H_D

The largest overall dimension (in m) as specified by level (miNoMax) in the direction of the package length which includes the package length and any terminals which are presented for mounting in the length direction.

BS3934 issue 1 : 1975

AAG024-001 01   NR3..3.3ES2   T03
level miNoMax   real measure
m

overall width   H_E
H_E

The largest overall dimension (in m) as specified by level (miNoMax) in the direction of the package width which includes the package width and any terminals which are presented for mounting in the width direction.

BS3934 issue 1 : 1975

DAE021-001 Package overall widths

AAG025-001 01   NR3..3.3ES2   T03
level miNoMax   real measure
m

overall diameter $fH
ØH

The largest overall diameter (in m) as specified by level (miNoMax) which includes all terminals which are presented for mounting radially.

BS3934 issue 1 : 1975

AAG026-001 01   NR3..3.3ES2   T03
level miNoMax   real measure
m

index height   h
index depth   h

The height or depth (in m) as specified by level (miNoMax) of an index feature.

BS3934 issue 1 : 1975

AAG027-001 01 **NR3..3ES2** **T03**
level miNoMax real measure
m

index width **j**
j

The width (in m) as specified by level (miNoMax) of an index feature.

BS3934 issue 1 : 1975

DAE004-001 Cylindrical package dimensions

AAG028-001 01 **NR3..3ES2** **T03**
level miNoMax real measure
m

index length **k**
k

The length (in m) as specified by level (miNoMax) of an index feature.

NOTE
On cylindrical packages, the index length (e.g. tab) is measured from the overall diameter *D of the device.

BS3934 issue 1 : 1975

DAE004-001 Cylindrical package dimensions

AAG029-001 01 **NR3..3ES2** **T03**
level miNoMax real measure
m

terminal length **L**
lead length L

The length (in m) as specified by level (miNoMax) of terminal available for mounting measured from the seating plane.

BS3934 issue 1 : 1975

DAE009-001 Lead lengths and diameters

AAG030-001 01 **NR3..3ES2** **T03**
level miNoMax real measure
m

terminal length **L_0**
lead length L_0

The length of terminal (in m) as specified by level (miNoMax) available for mounting measured from the seating plane.

NOTE
L_0 refers to that part of the terminal over which the diameter $\emptyset b_0$ is closely controlled.

BS3934 issue 1 : 1975

DAE009-001 Lead lengths and diameters

AAG031-001 01 **NR3..3ES2** **T03**
level miNoMax real measure
m

terminal length **L_1**
lead length L_1

The length (in m) as specified by level (miNoMax) of terminal available for mounting measured from the seating plane.

NOTE
L_1 refers to that part of the terminal over which the diameter $\emptyset b_1$ is closely controlled.

BS3934 issue 1 : 1975

DAE009-001 Lead lengths and diameters

AAG032-001 01 **NR3..3ES2** **T03**
level miNoMax real measure
m

terminal length **L_2**
lead length L_2

The length (in m) as specified by level (miNoMax) of terminal available for mounting measured from the seating plane.

NOTE
L_2 refers to that part of the terminal over which the diameter $\emptyset b_2$ is closely controlled.

BS3934 issue 1 : 1975

AAG033-001 01   NR3..3.3ES2   T03
level miNoMax   real measure
m

terminal length   L_D
lead length L_D

The length (in m) as specified by level (miNoMax) of controlled terminal zone for mounting measured from the end of the terminal in the direction of the package length.

BS3934 issue 1 : 1975

AAG034-001 01   NR3..3.3ES2   T03
level miNoMax   real measure
m

terminal length   L_E
lead length L_E

The length (in m) as specified by level (miNoMax) of controlled terminal zone for mounting measured from the end of the terminal in the direction of the package width.

BS3934 issue 1 : 1975

DAE021-001 Package overall widths

AAG035-001 01   NR3..3.3ES2   T03
level miNoMax   real measure
m

mounted length   M_D
M_D

The overall length, (in m) as specified by level (miNoMax), in the package length direction which includes the package length and any terminals which are bent to be perpendicular to the seating plane.

BS3934 issue 1 : 1975

AAG036-001 01   NR3..3.3ES2   T03
level miNoMax   real measure
m

mounted width   M_E
M_E

The overall width, (in m) as specified by level (miNoMax), in the package width direction which includes the package width and any terminals which are bent to be perpendicular to the seating plane.

BS3934 issue 1 : 1975

DAE012-001 Terminal splay dimensions

AAG037-002 01   NR1..4   Q56
level Nom   integer measure

quantity of terminal positions n
number of potential terminals   n

The total quantity of potential terminal positions in accordance with the specified terminal designation system.

BS3934 issue 1 : 1975

REMARKS:
The actual quantity of terminals present may be less than n.

DAE004-001 Cylindrical package dimensions

AAG038-001 01   NR1..4   Q56
level Max   integer measure

quantity of missing terminals   n_1
n_1

The maximum quantity of potential terminal positions which can be unoccupied.

BS3934 issue 1 : 1975

AAG039-001 01   NR3..3.3ES2   T03
level miNoMax   real measure
m

mounting hole diameter $fp
Øp

The diameter (in m) as specified by level (miNoMax) of the hole in the package used for mounting.

BS3934 issue 1 : 1975

DAE042-001 Oval flange-mount package dimensions

AAG040-001 01   NR3..3.3ES2   T03
level miNoMax   real measure
m

terminal emergence height   Q
Q

The distance (in m) as specified by level (miNoMax) from the seating plane to the underside of the terminals where they emerge from the package.

BS3934 issue 1 : 1975

DAE040-001 Terminal emergence height

AAG041-001   01   NR3..3.3ES2   T03
level miNoMax   real measure
m

terminal emergence dimension   Q_1
Q_1

The distance (in m) as specified by level (miNoMax) from the seating plane to the underside of the terminals where they emerge from the package.

BS3934 issue 1 : 1975

AAG042-001 01   NR3..3.3ES2   T03
level miNoMax   real measure
m

mounting hole separation   q
q

The distance (in m) as specified by level (miNoMax) between the centres of two mounting holes.

BS3934 issue 1 : 1975

DAE042-001 Oval flange-mount package dimensions

AAG043-001 01   NR3..3.3ES2   T03
level miNoMax   real measure
m

curve radius   r
r

The radius (in m) as specified by level (miNoMax) of a curve forming a part of the package outline.

BS3934 issue 1 : 1975

AAG044-001 01   NR3..3.3ES2   T03
level miNoMax   real measure
m

terminal reference position   S
S

The distance (in m) as specified by level (miNoMax) from a reference line to the centre of a terminal position.

BS3934 issue 1 : 1975

AAG045-001 01   NR3..3.3ES2   T03
level miNoMax   real measure
m

terminal reference position   s
s

The distance (in m) as specified by level (miNoMax) from a line through the centres of two terminal positions to the centre of the mounting hole which is furthest from the line.

BS3934 issue 1 : 1975

DAE042-001 Oval flange-mount package dimensions

AAG046-001 01   NR3..3.3ES2   T03
level miNoMax   real measure
m

package overhang   Z
Z

The distance (in m) as specified by level (miNoMax) from the end terminal true position to the extremity of the package.

BS3934 issue 1 : 1975

REMARKS:
In the case where the terminals extend beyond the package, Z shall be specified as zero. Negative dimensions shall not be used.

DAE005-001 In-line package dimensions

AAG047-001 01   NR2..3.3   T01
level miNoMax   real measure
deg

index datum angle $a
α

The angular spacing (in degrees) as specified by level (miNoMax) between the index feature and the first terminal true position on a terminal circle.

BS3934 issue 1 : 1975

DAE004-001 Cylindrical package dimensions

AAG048-001 01   NR2..3.3   T01
level miNoMax   real measure
deg

index datum angle $a_A
α_A

The angular spacing (in degrees) as specified by level (miNoMax) between the index feature and the first terminal true position on the terminal circle with the largest diameter.

BS3934 issue 1 : 1975

AAG049-001 01   NR2..3.3   T01
level miNoMax   real measure
deg

angular terminal spacing $b
β

The angular spacing (in degrees) as specified by level (miNoMax) between true positions of terminal centres on a terminal circle.

BS3934 issue 1 : 1975

DAE004-001 Cylindrical package dimensions

AAG050-001 01   NR2..3.3   T01
level miNoMax   real measure
deg

angular terminal spacing $b_A
β_A

The angular spacing (in degrees) as specified by level (miNoMax) between true positions of terminal centres on the terminal circle with the largest diameter.

BS3934 issue 1 : 1975

AAG051-001 01   NR2..3.3   T01
level miNoMax   real measure
deg

angular terminal spread $h
θ

The angle (in degrees) as specified by level (miNoMax) between the terminal and the seating plane.

BS3934 issue 1 : 1975

DAE012-001 Terminal splay dimensions

AAG052-001 01   NR2..3.3   T01
level miNoMax   real measure
deg

terminal seating angle $h_1
θ_1

The angle (in degrees) as specified by level (miNoMax) between the terminal and the seating plane.

BS3934 issue 1 : 1975

AAG053-001 01   NR3..3.3ES2   T03
level miNoMax   real measure
m

terminal row spacing   e_E
lead row spacing e_E

The distance (in m) as specified by level (miNoMax) between lines parallel to the package length and passing through the true centres of terminal positions, measured in a direction parallel to the package width.

NOTE
For surface-mount packages, this measurement refers to the centres of the lands on which the package is mounted.

AAG054-001 02   X 4   A58
simple   non-quantitative code

terminal variant code   terminal var

The code of the name which identifies a particular variant of the shape of the terminals on a package.

T000 = standard form
T001 = straight leads
T002 = formed leads
T003 = leads on a circle
T004 = straight leads in line
T005 = formed leads in line
T006 = leads on a square grid
T007 = offset leads
T008 = straight tags
T009 = round pins
T010 = rectangular pins
T011 = straight flat leads
T012 = solder balls
T013 = one fixed tag
T014 = two fixed tags
T015 = one lead with tag
T016 = two leads with tags
T017 = three leads with tag
T018 = one lead no tag
T019 = strip leads
T020 = multiple leads
T021 = three leads
T022 = two leads, stub and tab
T023 = straight V-section leads

IEC 60191-4 (1999)

AAG055-001   02   X 4   A57
          simple   non-quantitative code

body variant code   body variant

The code of the name which identifies a particular variant of the shape of the body on a package.

B000 = standard form
B001 = bumped package
B002 = non-bumped package
B003 = plain cylindrical
B004 = top hat package
B005 = clamp mount package
B006 = stud mount package
B007 = cavity up
B008 = cavity down
B009 = non-cavity package (moulded)
B010 = cavity package (ceramic)

IEC 60191-4 (1999)

AAG056-001 01   A 1   A58
              simple   non-quantitative code

terminal position code   terminal pos

A prefix to the IEC 60191-4 code which identifies the position of the terminals on the package body.

A   = axial
B   = bottom
D   = double
E   = end
L   = lateral
P   = perpendicular
Q   = quad
R   = radial
S   = single
T   = triple
U   = upper
Z   = zig-zag

IEC 60191-4 (1999)

AAG057-001 01   A 2   A58
              simple   non-quantitative code

package style code   package style

The IEC 60191-4 code which identifies the general physical form of the package.

BD   = bead
CC   = chip carrier
CP   = clamped
CY   = cylindrical
DB   = disc
FM   = flange mount
FO   = fibre-optic
FP   = flat pack
GA   = grid array
IP   = in line
LF   = long-form
MA   = microelectronic
MP   = power module
MW   = microwave
PF   = press-fit
PM   = Post mount
RC   = rectangular
SO   = small outline
SS   = special shape
UC   = uncased chip
VP   = vertical surface-mount

IEC 60191-4 (1999)

AAG058-001 01   A 1   A58
              simple   non-quantitative code

terminal shape code   terminal shape
lead form code

A suffix to the IEC 60191-4 code which identifies the form or shape of the terminals.

NOTE
If more than one terminal is used, the code to be used shall be that for the terminal which carries the principal current.

A   = screw
B   = butt
C   = C-bend
D   = solder lug
E   = faston plug
F   = flat
G   = gull wing
H   = high current cable
I   = insulated
J   = J-bend
L   = L-bend
N   = no lead
P   = pin or peg
Q   = quick-connect
R   = wrap-around
S   = S-bend
T   = through-hole
U   = J-inverted
W   = wire
Y   = screw
IEC 60191-4 (1999)

AAG059-001   01   NR1..4   Q56
          level Nom   integer measure

actual quantity of termination   n_2
actual terminal number n_2

The actual quantity of potential terminal positions which are occupied.

AAG061-001 01   M..32   A58
          simple   string

IEC 60191 code   IEC 60191 code

A code used to identify the physical features of a component package which, when used with an optional suffix can provide a unique reference to a package and associated dimension set.

NOTE
The code is made up of seven fields with separators :body shape (optional)-   (hyphen separator)body material (optional)terminal position (optional)package style (mandatory)-   (hyphen separator)terminal shape (optional)terminal count (optional)/.

IEC 60191-4 (1999)

REMARKS:
The body material prefix may only be used if the terminal position prefix is also present. Hyphen and solidus separators are only used when the relevant prefixes and suffixes are present.

AAG062-001 01   NR3..3.3ES2   T03
          level miNoMax   real measure
          m

package diameter $fD_1
                              $ØD_1$

A diameter (in m) as specified by level (miNoMax) of a package, excluding terminals, measured in a plane parallel to the seating plane.

BS3934 issue 1 : 1975

REMARKS:
ØD1 is usually smaller than ØD

DAE119-001 Dimensions of packages with tags

AAG063-001 01   NR3..3.3ES2   T03
          level miNoMax   real measure
          m

flange length   D_1
                          D_1

The length (in m) as specified by level (miNoMax) of a flange measured in the direction of the package length.

AAG064-001 01   NR3..3.3ES2   T03
          level miNoMax   real measure
          m

mounting hole position q_1
                              q_1

The distance (in m) as specified by level (miNoMax) of the centre of a mounting hole from a reference line on the package.

AAG065-001 01   NR3..3.3ES2   T03
          level miNoMax   real measure
          m

stand-off length   L_1
shoulder length L_1

The length (in m) as specified by level (miNoMax) of a stand-off feature.

NOTE
This dimension applies to a separate stand-off or to the length of the wider section of shouldered terminations which have the effect of standing the component off from the seating plane.
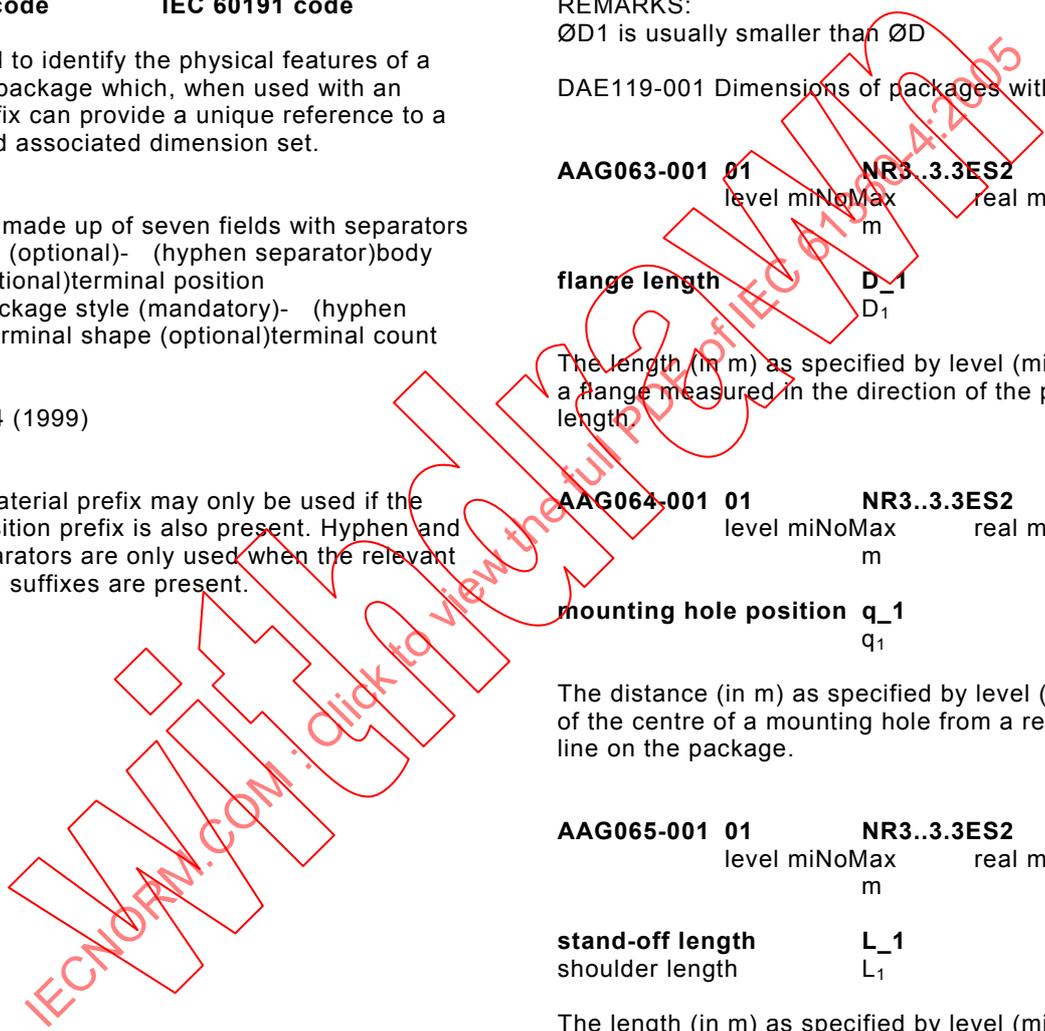
| AAG066-001 | 01 | M 7 | A58 |
| | simple | string | |

drawing reference code   drawing ref

Reference to the identity of the drawing on which the dimension set is based.

NOTE
The drawing reference code is made up of four fields with one separator :terminal position (one letter)package style (two letters)- (hyphen separator)terminal shape (one letter)numeric sequence code (two digits).

IEC 60191-4 (1999)

| AAG067-001 | 01 | M..35 | A61 |
| | simple | string | |

source document identification   source doc

Reference to the identifier for the document from which a dimension set was taken.

NOTE
The document may be a manufacturer's data sheet or data book or it may be a specification such as IECQ, CECC or MIL.

| AAG068-001 | 01 | M..7 | A61 |
| | simple | string | |

source document page   source page

The number of the page in the source document on which the dimension set is given.

| AAG069-001 | 01 | M..35 | A58 |
| | simple | string | |

manufacturer package code   manuf code

The code by which the manufacturer identifies the package style or a specific dimension set.

NOTE
If necessary, a code may be supplemented by descriptive text to distinguish variants.

| AAG070-001 | 01 | M..17 | A58 |
| | simple | string | |

standard package code standard code

The code of a standard dimension set taken from a standards document.

REMARKS:
See AAG071 for identity of the standards document

| AAG071-001 | 01 | M..17 | A61 |
| | simple | string | |

**standards document   standards ref
reference**

The identity of a standards document that contains lists of dimension sets for electric or electronic components.

NOTE
The standard may be international, such as IEC 60191, or a corresponding national standard, such as JEDEC JESD 95, BS 3934, etc.

| AAG072-001 | 02 | A..3 | A58 |
| | simple | non-quantitative code | |

**termination count   count
   sequence   sequence**

The direction of the sequence of numbering of the terminals of a component when viewed from the top.

CW = clockwise
ACW = anti-clockwise

REMARKS:
The terminal positions should normally be numbered progressively in an anti-clockwise direction as viewed from the top. The terminal number 1 is then the first terminal position anti-clockwise from the index mark.(Ref : BS 3934-1 : 1992)

| AAG073-001 | 02 | A 1 | A56 |
| | simple | non-quantitative code | |

surface-mount flag   SMD flag

A flag to indicate whether the package is intended for surface-mount applications.

Y = yes
N = no

| AAG074-001 | 01 | M 10 | A31 |
| | simple | string | |

date of creation of record   creation date

The date on which the record containing the dimension set was first created in the current format.

REMARKS:
The date format shall be yyyy/mm/dd.

| AAG075-001 | 01 | M..35 | A41 |
| | simple | string | |

identification of creator creator ID

The identy of the person or organisation who was first responsible for creating the record for the dimension set in the current form.

AAG076-001   01   NR3..3ES2   T03
level miNoMax   real measure
m

terminal width   b_p
lead width b_p

The width (in m) as specified by level (miNoMax) of the metallized area of the terminal pad on a surface-mount package.

NOTE
This dimension applies to that part of the terminal which is or may be used for connection to the circuit in which it is mounted.

AAG077-001 01   NR3..3ES2   T03
level miNoMax   real measure
m

terminal length   L_p
lead length L_p

The length (in m) as specified by level (miNoMax) of the metallized area of the terminal pad on a surface-mount package.

NOTE
This dimension applies to that part of the terminal which is or may be used for connection to the circuit in which it is mounted.

AAG078-001 01   NR3..3ES2   T03
level miNoMax   real measure
m

lid height   A_3
A_3

The height (in m) as specified by level (miNoMax) of a lid on the top of a package which encloses a cavity below.

DAE001-001 Package length, width and height

AAG079-001 01   NR3..3ES2   T03
level miNoMax   real measure
m

other index length   k_1
k_1

The length (in m) as specified by level (miNoMax) of a second index feature.

NOTE
This represents the length of a feature which, when taken with other index features on the package, allows for identification of package orientation.

AAG080-001   01   NR3..3ES2   T03
level miNoMax   real measure
m

terminal row spacing   e_D
lead row spacing e_D

The distance (in m) as specified by level (miNoMax) between lines parallel to the package width and passing through the true centres of terminal positions, measured in a direction parallel to the package length.

NOTE
For surface-mount packages, this measurement refers to the centres of the lands on which the package is mounted.

BS3934 issue 1 : 1975

AAG081-001 01   NR3..3ES2   T03
level miNoMax   real measure
m

lid length   D_1
D_1

The length (in m) as specified by level (miNoMax) of a lid on the top of a package which encloses a cavity below.

DAE001-001 Package length, width and height

AAG082-001 01   NR3..3ES2   T03
level miNoMax   real measure
m

lid width   E_1
E_1

The width (in m) as specified by level (miNoMax) of a lid on the top of a package which encloses a cavity below.

DAE001-001 Package length, width and height

AAG083-001 01   NR3..3ES2   T03
level miNoMax   real measure
m

larger flange radius   r_1
r_1

The larger of the two radii (in m) as specified by level (miNoMax) of a flange having an oval shape.

DAE042-001 Oval flange-mount package dimensions

AAG084-001   01   NR3..3.3ES2   T03
    level miNoMax   real measure
                m

smaller flange radius   r_2
                   r_2

The smaller of the two radii (in m) as specified by level (miNoMax) of a flange having an oval shape.

DAE042-001 Oval flange-mount package dimensions

AAG085-001 01   NR3..3.3ES2   T03
    level miNoMax   real measure
                m

flange overall length   U_1
                  U_1

The overall length (in m) as specified by level (miNoMax) of the mounting flange.

DAE042-001 Oval flange-mount package dimensions

AAG086-001 01   NR3..3.3ES2   T03
    level miNoMax   real measure
                m

flange overall width   U_2
                  U_2

The overall width (in m) as specified by level (miNoMax) of the mounting flange.

DAE042-001 Oval flange-mount package dimensions

AAG087-001 01   NR3..3.3ES2   T03
    level miNoMax   real measure
                m

terminal row spacing   e_A
                  e_A

The distance (in m) as specified by level (miNoMax) between the centres of two parallel rows of terminals when mounted.

DAE012-001 Terminal splay dimensions

AAG088-001 01   NR3..3.3ES2   T03
    level miNoMax   real measure
                m

terminal row splay   e_B
                  e_B

The distance (in m) as specified by level (miNoMax) between the centres of the ends of two parallel rows of terminals prior to mounting.

REMARKS:
For DIP packages, components are often supplied with the terminations splayed. For limits to the splay angle, see AXD051.

DAE012-001 Terminal splay dimensions

AAG089-001 01   NR3..3.3ES2   T03
    level miNoMax   real measure
                m

package length   G
                  G

The overall length (in m) as specified by level (miNoMax) of a package excluding terminals and slugs.

BS3934 issue 1 : 1975

AAG090-001 01   NR3..3.3ES2   T03
    level miNoMax   real measure
                m

overall length   H
                  H

The overall length (in m) as specified by level (miNoMax) of a package including terminals.

BS3934 issue 1 : 1975

AAG091-001 01   NR3..3.3ES2   T03
    level miNoMax   real measure
                m

bent terminal spacing   e
                  e

The distance (in m) as specified by level (miNoMax) between centres to which the leads of an axial-leaded package may be bent.

AAG092-001 01   **NR3..3ES2**   **T03**
level miNoMax   real measure
m

package height zone   G_A
G_A

The overall height (in m) as specified by level (miNoMax) of a zone which includes the package height, package irregularities and the uncontrolled part of any terminals presented in the height direction.

DAE092-002 Cylindrical stud-mount package dimensions

AAG093-002 01   **NR3..3ES2**   **T03**
level miNoMax   real measure
m

stud thread diameter   %fM
ØM

The diameter (in m) as specified by level (miNoMax) of a threaded stud used for mounting the package.

DAE092-002 Cylindrical stud-mount package dimensions

AAG094-002 01   **NR3..3ES2**   **T03**
level miNoMax   real measure
m

terminal thread diameter   %fm
Øm

The diameter (in m) as specified by level (miNoMax) of a threaded terminal.

DAE092-002 Cylindrical stud-mount package dimensions

AAG095-001 01   **NR3..3ES2**   **T03**
level miNoMax   real measure
m

stud length   N
N

The length (in m) as specified by level (miNoMax) of a threaded stud used for mounting the package.

DAE092-002 Cylindrical stud-mount package dimensions

AAG096-001 01   **M..17**   **A58**
simple   string

stud thread   stud thread

The designation of the thread of a stud used for mounting the package.

AAG097-001 01   **M..17**   **A58**
simple   string

terminal thread   term thread

The designation of the thread of a terminal.

AAG098-001 01   **NR3..3ES2**   **T03**
level miNoMax   real measure
m

main terminal length   Q_1
Q_1

The distance (in m) as specified by level (miNoMax) of the end of the longer of two terminal leads from a reference plane.

REMARKS:
Q_1 is longer than Q_2

AAG099-001 01   **NR3..3ES2**   **T03**
level miNoMax   real measure
m

secondary terminal length   Q_2
Q_2

The distance (in m) as specified by level (miNoMax) of the end of the shorter of two terminal leads from a reference plane.

REMARKS:
Q_2 is shorter than Q_1.

AAG100-001 01   **NR3..3ES2**   **T03**
level miNoMax   real measure
m

main overall length   G_1
G_1

The longest overall length (in m) as specified by level (miNoMax) of a package measured from a reference plane excluding terminals but including slugs.

REMARKS:
G_1 is longer than G_2.

AAG101-001 01   **NR3..3ES2**   **T03**
          level miNoMax   real measure
                    m

secondary overall length   G_2
                              G_2
`

A shorter overall length (in m) as specified by level (miNoMax) of a package measured from a reference plane excluding terminals but including slugs.

REMARKS:
G_2 is shorter than G_1.

AAG102-001 01   **NR3..3ES2**   **T03**
          level miNoMax   real measure
                    m

slug diameter $fM
                    ØM

The diameter (in m) as specified by level (miNoMax) of a slug.

AAG103-001 01   **NR3..3ES2**   **T03**
          level miNoMax   real measure
                    m

slug width   M_1
                    M_1

The width (in m) as specified by level (miNoMax) of a slug.

AAG104-001 01   **M..20**   **A58**
          simple   string

drawing sequence code drawing ID
drawing suffix

A suffix to the drawing code which serves to identify a particular dimension set related to the drawing.

REMARKS:
The suffix is a serial numeric, separated from the drawing reference by a solidus : thus BCY-W01/24

AAG105-001 01   **NR3..3ES2**   **T03**
          level miNoMax   real measure
                    m

bent terminal spacing   Q
                              Q

The distance (in m) as specified by level (miNoMax) between the centres of terminal leads of an axial-leaded package after the leads have been bent at right angles.

NOTE
It is assumed that the leads are bent symmetrically and equidistant from the ends of the body of the package.

AAG107-001 01   **M..175**   **A58**
          simple   string

terminal pattern   terminal pat

The pattern of terminals on a grid array.

NOTE
The terminal pattern is expressed as a sequence of 1s and 0s to represent the presence or absence respectively of terminals on a regular rectangular array.

AAG108-001 01   **NR3..3ES2**   **T03**
          level miNoMax   real measure
                    m

terminal reference position   S_1
                              S_1

The distance (in m) as specified by level (miNoMax) from a reference line to the centre of a terminal position.

DAE042-001 Oval flange-mount package dimensions

AAG109-001 01   **NR1..4**   **Q56**
          level Nom   integer measure

quantity of terminal positions   n_D
                              n_D

The quantity of terminal positions in a row in a direction parallel to the length.

AAG110-001 01   **NR1..4**   **Q56**
          level Nom   integer measure

quantity of terminal positions   n_E
                              n_E

The quantity of terminal positions in a row in a direction parallel to the width.

AAG111-001   01   NR3..3.3ES2   T03
level miNoMax   real measure
m

terminal length   l
l

The length (in m) as specified by level (miNoMax) of a terminal measured away from the body in the direction of the body length.

NOTE
The symbol l is generally used for the length of terminals which are not rigid.

AAG112-001 01   NR3..3.3ES2   T03
level miNoMax   real measure
m

terminal reference position   S_E
S_E

The distance (in m) as specified by level (miNoMax) from a reference line to the centre of a terminal position measured in a direction parallel to the package length.

AAG113-001 01   NR3..3.3ES2   T03
level miNoMax   real measure
m

terminal reference position   S_D
S_D

The distance (in m) as specified by level (miNoMax) from a reference line to the centre of a terminal position measured in a direction parallel to the package width.

AAG114-001 01   NR3..3.3ES2   T03
level miNoMax   real measure
m

flange width   E_1
E_1

The dimension (in m) as specified by level (miNoMax) of a flange measured in the direction of the package width.

AAG115-001 01   NR3..3.3ES2   T03
level miNoMax   real measure
m

index terminal length   L_1
L_1

The length (in m) as specified by level (miNoMax) of a terminal which is longer than other terminals and is intended as an index reference

REMARKS:
An index terminal normally indicates terminal 1

AAG116-001 01   NR3..3.3ES2   T03
level miNoMax   real measure
m

package diameter $fD_2
$ØD_2$

The diameter (in m) as specified by level (miNoMax) of a package, excluding terminals, measured in a plane parallel to the seating plane.

BS3934 issue 1 : 1975

REMARKS:
$ØD_2$ is usually smaller than $ØD_1$.

AAG117-001 01   NR3..3.3ES2   T03
level miNoMax   real measure
m

tag hole width   t
t

The smallest dimension (in m) as specified by level (miNoMax) of a non-circular hole in a terminal tag or slug.

BS3934 issue 1 : 1975

AAG118-001 01   NR3..3.3ES2   T03
level miNoMax   real measure
m

tag hole diameter $ft
$Øt$

The diameter (in m) as specified by level (miNoMax) of the hole in a terminal lug or slug

BS3934 issue 1 : 1975

AAG119-001	01		NR3..3ES2	T03
	level miNoMax		real measure	
	m			

tag hole diameter   **$ft_1**
                            $\varnothing t_1$

The diameter (in m) as specified by level (miNoMax) of the hole in a terminal lug or slug.

REMARKS:
$\varnothing t_1$ is normally larger than $\varnothing t_2$.

DAE119-001 Dimensions of packages with tags

AAG120-001	01		NR3..3ES2	T03
	level miNoMax		real measure	
	m			

tag hole diameter   **$ft_2**
                            $\varnothing t_2$

The diameter (in m) as specified by level (miNoMax) of the hole in a terminal lug or slug.

REMARKS:
$\varnothing t_2$ is normally smaller than $\varnothing t_1$.

DAE119-001 Dimensions of packages with tags

AAG121-001	01		NR3..3ES2	T03
	level miNoMax		real measure	
	m			

tag hole distance   **O**
                            O

The distance (in m) as specified by level (miNoMax) between the seating plane and the centre of a hole in the tag of a terminal.

BS3934 issue 1 : 1975

AAG122-001	01		NR3..3ES2	T03
	level miNoMax		real measure	
	m			

tag hole distance   **O_1**
                            O_1

The distance (in m) as specified by level (miNoMax) between the seating plane and the centre of a hole in the tag of a terminal.

DAE119-001 Dimensions of packages with tags

AAG123-001	01		NR3..3ES2	T03
	level miNoMax		real measure	
	m			

tag hole distance   **O_2**
                            O_2

The distance (in m) as specified by level (miNoMax) between the seating plane and the centre of a hole in the tag of a terminal.

DAE119-001 Dimensions of packages with tags

AAG124-001	01		NR3..3ES2	T03
	level miNoMax		real measure	
	m			

height zone   **Q**
                            Q

The height (in m) as specified by level (miNoMax) of a zone within which a flexible lead may be bent to emerge parallel to the seating plane.

DAE119-001 Dimensions of packages with tags

AAG125-001	01		NR3..3ES2	T03
	level miNoMax		real measure	
	m			

overall height   **H_A**
                            H_A

The largest overall dimension (in m) as specified by level (miNoMax) in the direction of the package height which includes the package height and any terminals which are presented for mounting in the height direction.

AAG129-001	01		NR3..3ES2	T03
	level miNoMax		real measure	
	m			

terminal length   **l**
lead length   l

The length (in m) as specified by level (miNoMax) of a terminal available for mounting measured from the seating plane.

NOTE
The symbol l is generally used for the length of terminals which are not rigid and not in fixed positions.

BS3934 issue 1 : 1975

AAG130-001 01   NR2..3.3   T01
level miNoMax   real measure
deg

index angle $b
β

The angle (in degrees) as specified by level (miNoMax) of a chamfer used as an index feature.

BS3934 issue 1 : 1975

AAG131-001 01   NR2..3.3   T03
level miNoMax   real measure
deg

hexagon width   H
across-flats dimension   H

The distance (in m) as specified by level (miNoMax) between parallel opposite sides of a hexagonal feature.

AAG133-001 01   NR3..3.3ES2   T03
level max   real measure
m

non-threaded stud length   N_1
N₁

The maximum length (in m) as specified by level of the non-threaded portion of a stud used for mounting the package.

DAE092-002 Cylindrical stud-mount package dimensions

AAJ001-001 01   M..8   A57
simple   non-quantitative code

electrolytic capacitor type   electrolytic

Code of the type of electrolytic capacitor.

NAL = non-solid aluminium electrolytic
NTAN = non-solid tantalum electrolytic
SAL = solid aluminium electrolytic
STAN = solid tantalum electrolytic

AAJ002-001 01   M..8   A57
simple   non-quantitative code

variable capacitor type variable

Code of the type of variable capacitor.

PRESET = pre-set capacitor
TRIM   = trimmer capacitor
TUNE   = tuning capacitor

AAJ003-001 01   M..8   A57
simple   non-quantitative code

single resistor type   resistor

Code of the type of single linear resistor.

CHIP = fixed chip resistor
FUS   = fixed fusing resistor
LP   = fixed low-power resistor
PREC = fixed precision resistor
PWR   = fixed power resistor
THERM = fixed thermostat resistor

AAJ004-001 01   M..8   A57
simple   non-quantitative code

NTC thermistor type   NTC thermistor

Code of the application type of a NTC thermistor.

CURR   = current control NTC thermistor

AAJ006-002 01   M..8   A57
simple   non-quantitative code

adjustability type   adjust type

Code of the type of potentiometer according to the means by which its value is adjusted.

LPROT   = low-power rotary potentiometer
PRECROT = rotary precision potentiometer
PRESET   = preset potentiometer
PWRROT   = power rotary potentiometer
SLIDE   = slide potentiometer

AAJ007-001 01   A 1   A56
simple   non-quantitative code

built-in fuse   built-in fuse

An indication (Y or N) as to whether a solid tantalum capacitor contains a built-in fuse.

N   = no built-in fuse
Y   = with built-in fuse

AAJ008-001 01   M..8   A58
simple   string

size code   size code

The size code of a capacitor package intended for surface mounting.

NOTE
The code is formed from the nominal length followed by the nominal width both expressed in units of 0,1mm.

| AAJ009-001 | 01 | M..35 | A55 |
| | simple | string | |

structure   **structure**

Structure of a resistor intended for high-power applications

AAJ010-001	01	NR3..3.3ES2	E06
	level max	real measure	
		V	

rated voltage   **V_r**
                                V_r

The maximum dc or ac rms voltage (in V) calculated from the square root of the product of the rated resistance and the rated dissipation which may be applied continuously to a resistor at any operating temperature below the rated temperature.

NOTE
At high values of resistance, above the critical resistance value, the rated voltage may not be applicable because of the size and the construction of the resistor.

IEC60115-1, JIS C 5201-1

AAJ011-001	01	NR3..3.3ES2	E35
	level min	real measure	
		W	

fusing power   **P_fuse**
                                P_{fuse}

The minimum power (in W) that make will ensure that a fusing resistor blows in the specified period of time.

AAJ049-001 = fusing time

EIAJ RC-2124

| AAJ012-002 | 01 | M..8 | A57 |
| | simple | non-quantitative code | |

fuse type   **fuse type**

Code of the type of a fuse.

CUR   = current-activated fuses
THERM   = thermally-activated fuses

AAJ013-001	01	NR2 S..3.3	E33
	level nom	real measure	
		%	

tolerance of TC of resistance TC_tol
TCR tolerance TC_{tol}

The nominal tolerance on temperature coefficient of resistance (in %) for a resistor used for temperature sensing.

IEC60115-1, JIS C 5201-1

AAJ014-001	01	NR3..3.3ES2	T03
	level nom	real measure	
		m	

potentiometer size   **D**
                                D

The nominal value of the major dimension (in m) of the body of a rotary potentiometer measured in a direction perpendicular to the operating shaft.

AAJ015-001	01	NR3..3.3ES2	K12
	level minMax	real measure	
		N.m	

rotation torque   **T_rot**
                              T_{rot}

The value as specified by level (minMax) of the torque (in N.m) required to operate the shaft of a rotary potentiometer.

| AAJ016-001 | 01 | M..8 | A56 |
| | simple | non-quantitative code | |

application type   **application**

Code of the application class of a resistor or potentiometer.

REMARKS:
A precision resistor is one with stable characteristics and, if a potentiometer, is capable of precise setting. A component capable of dissipating powers up to 1 W is generally regarded as being a low-power type, whilst one capable of dissipating powers of over 5 W is a high-power type. Between these values, the distinction between types depends on structure.

AAJ017-001 01   **M..8**   **A58**
                simple   non-quantitative code

adjustment direction   adjust dir

Code for the direction of operation of a preset
potentiometer relative to the surface on which it is
mounted.

HORIZ   = horizontal (side adjustment)
VERT   = vertical (top adjustment)

AAJ018-001 01   **M..8**   **A56**
                simple   non-quantitative code

sealing class   sealing

Code for the sealing provided to protect the slider
contact area from the environment.

DUSTP   = dust-proof seal
OPEN   = open – no sealing
SEAL   = fully sealed

AAJ019-001 01   **NR3..3.3ES2**   **T03**
                level nom   real measure
                               m

slide length   l_sl
stroke length l_{sl}

The nominal distance of travel (in m) of the moving
contact actuator of a slider potentiometer.

AAJ020-001 01   **NR3..3.3ES2**   **K09**
                level minMax   real measure
                                    N

slide force   F_sl
                          F_{sl}

The value as specified by level (minMax) of the force
(in N) required to operate the adjuster of a slider
potentiometer.

AAJ021-001 01   **NR3..3.3ES2**   **K09**
                level minMax   real measure
                                    N

lever stop force   F_st
                          F_{st}

The value as specified by level (minMax) of the force
(in N) required to over-ride the end stops of a slider
potentiometer.

AAJ022-001 01   **M..8**   **A57**
                simple   non-quantitative code

PCB connector type   PCB connector

Code of the type of connector intended for use with
PC boards.

BTB   = Board-to-board
BTC   = board-to-cable
EDGE = card edge connectors
FPC   = FPC/FFC
JUMP = PCB jumper

AAJ023-001 01   **M..8**   **A57**
                simple   non-quantitative code

contact type   contact

Code of the type of connector contact.

CRIMP   = crimped contact
ID   = insulation displacement contact
SCREW   = screwed contact
SOLDER   = soldered contact

AAJ024-001 01   **M..8**   **A57**
                simple   non-quantitative code

plug/jack type   plug/jack

Code of the type of plug or jack.

ASSY   = plug assembly
CMPLX   = complex jack board
CONC   = concentric plug or jack
PIN   = pin plug or jack
PWR   = plug or jack for dc power

AAJ025-001 01   **M..8**   **A57**
                simple   non-quantitative code

concentric plug/jack type   concentric

Code of the type of concentric plug or jack.

JACK = concentric jack
MULT = concentric multiple jack
PLUG = concentric plug

AAJ026-001 01   **M..8**   **A57**
                simple   non-quantitative code

pin plug/jack type   pin

Code of the type of pin plug or jack.

JACK = pin jack
MULT = pin multiple jack
PLUG = pin plug
SHLD = shielded pin jack

AAJ027-001   01   M..8   A57
                simple   non-quantitative code

dc power plug/jack type dc power

Code of the type of plug or jack intended for use in dc power applications.

CAR   = car plug
JACK = dc power jack
PLUG = dc power plug

AAJ028-001   01   M..8   A57
                simple   non-quantitative code

socket type   socket

Code of the type of socket.

ANT   = socket for antenna feeder
FUSE   = fuse-holder or socket
IC   = socket for integrated circuit
LIGHT   = lighting socket
PCB   = socket for PCB
PWR   = power socket
SIG   = signal socket
TRA   = transistor socket
TUBE   = socket for tube
XTAL   = socket for quartz crystal

AAJ029-001   01   M..8   A57
                simple   non-quantitative code

tube socket type   tube socket

Code of the type of socket intended for use with vacuum tubes.

CRT   = socket for CRT
OTH   = socket for tube other than CRT

AAJ030-001   01   M..8   A57
                simple   non-quantitative code

power socket type   power socket

Code of the type of socket intended for use in power applications.

IN   = power inlet socket
OUT   = power outlet socket
XOVER   = power changeover socket

AAJ031-001 01   M..8   A57
               simple   non-quantitative code

terminal type   terminal

Code of the type of terminal.

ARRY = terminal array
BRD = terminal board
ROD = terminal rod
SM   = small terminal

AAJ032-001 01   M..8   A57
               simple   non-quantitative code

small terminal type   small terminal

Code of the type of small terminal.

GND = earth terminal
LS   = speaker terminal

AAJ033-001 01   M..8   A57
               simple   non-quantitative code

terminal array type   terminal array

Code of the type of terminal array.

BLOCK   = block-type array
HARM   = harmonica-type array

AAJ034-001 01   NR3..3.3ES2   F01
               level min   real measure
                           s

fuse pre-arcing time   t_fus
                          t_{fus}
                          t_{arc}

The minimum time (in s) from the instant at which the fusing current is exceeded to the instant at which arcing begins.

AAE014-005 = ambient temperature

JIS C 6575

AAJ035-001 01   NR3..3.3ES2   E35
                level minMax   real measure
                                      W/K

dissipation factor   P_T
                              P_T

The value as specified by level (minMax) of the
power (in W) required to raise the temperature of a
thermistor in a state of equilibrium by 1K.

NOTE
The dissipation factor is calculated by dividing the
power dissipated (in W) in the thermistor by the
resulting temperature rise (in K).

JIS C 2570

AAJ036-001 01   M..8   A55
                simple   non-quantitative code

active element   active element

Code for the active element in a thermally-activated
fuse.

ELEM = thermal element
PELL = thermal pellet

AAJ037-001 01   M..8   A55
                simple   non-quantitative code

termination style   termination

Code for the method of connecting a conductor to
the contact of a connector.

A   = screw
C   = crimp
ID   = insulation displacement
M   = surface mount
P   = press-in
S   = solder
T   = tab
W   = wrap

AAJ038-001 01   M..8   A55
                simple   non-quantitative code

coupling style   coupling
connecting style

Code for the method by which two parts of a
connector are coupled or locked together.

BAY   = bayonet
PUSH   = push-pull
SCREW   = screw

AAJ039-001 01   NR3..3.3ES2   T03
                level nom real measure
                           m

contact pitch   e
                          e

The nominal distance (in m) between adjacent
contacts in a row of a connector with contacts in a
rectangular array

AAJ040-001 01   NR3..3.3ES2   T03
                level minMax   real measure
                                      m

circuit board thickness t
card thickness   t

The value as specified by level (minMax) of the
thickness of the circuit board to which a connector
may be attached

AAJ041-001 01   NR2 S..3.3   E06
                level nom real measure
                           dB

voltage standing wave ratio   VSWR
                                 VSWR

The nominal value of the voltage standing wave ratio
(in dB) of a radio-frequency connector or microwave
component.

AAJ042-001 01   NR3..3.3ES2   E06
                level max real measure
                           V

connector rated voltage V_r
                          V_r
                          U_r

The maximum voltage (in V) that may exist between
any two contacts or between any contact and the
shell or casing of a connector.

AAJ043-001 01   NR3..3.3ES2   E01
                level max real measure
                           A

connector rated current I_r
                          I_r

The maximum total current (in A) that may be carried
by a connector

AAJ044-001	01	NR3..3.3ES2	T03
	level miNoMax m	real measure	

connector diameter **D**
D

The value as specified by level (miNoMax) of the overall diameter of a connector with a circular or near-circular cross-section.

AAJ045-001	01	M..8	A56
	simple	non-quantitative code	

direction of insertion   **insertion dir**

Code for the direction of insertion of a jack.

HORIZ   = horizontal (parallel to mounting plane)
VERT   = vertical (perpendicular to mounting plane)

AAJ046-001	01	M..35	A58
	simple	string	

package type   **package**
IC package

The type of package containing one or more integrated circuits for which a socket is intended.

AAJ047-001	01	M..8	A58
	simple	non-quantitative code	

switch type   **switch type**

Code of the type of switch included with a power socket.

DPDT = double pole, double throw
DPST = double pole, single throw
NONE = no switch
SPDT = single pole, double throw
SPST = single pole, single throw

AAJ048-001	01	M..8	A57
	simple	non-quantitative code	

fibre optic component   **fibre optic**

Code of the type of fibre optic component.

ATT   = fibre optic attenuator
BRA   = fibre optic branch
CAB   = fibre optic cable
CONN   = fibre optic connector
COUP   = fibre optic coupler/splicer
DET   = fibre optic detetctor
FIL   = fibre optic filter
ISOL   = fibre optic isolator
LENS   = fibre optic lens
LINK   = fibre optic link
MOD   = fibre optic modulator
NETW   = fibre optic network
SOURC   = fibre optic light source
SWI   = fibre optic switch
TXRX   = fibre optic transmitter/receiver
WG   = optical waveguider

AAJ049-001	01	NR3..3.3ES2	T07
	simple	real measure s	

fusing time   **@t_fuse**
@t$_{fuse}$

The time (in s) within which a fusing resistor should blow when a power not less than the specified fusing power is dissipated in it.

EIAJ RC-2124

AAJ051-001	01	M..17	A55
	simple	string	

electrolyte type   **electrolyte**

The physical form of the electrolyte in an electrolytic capacitor.

AAJ052-001	01	M..17	A55
	simple	string	

anode type   **anode type**

The porosity type of the anode in an electrolytic capacitor.

AAJ053-001 01   NR3..3.3ES2   E06
level minMax   real measure
V

category voltage   V_c
V_c
U_c

The value as specified by level (minMax) of the category voltage range (in V) for a capacitor.

NOTE
The category voltage represents the range of permissible operating voltages at all temperatures within the category temperature range.

AAJ054-001 01   NR3..3.3ES2   E06
level minMax   real measure
V

surge voltage   V_surge
V_{surge}
U_{surge}

The value as specified by level (minMax) of the surge voltage range (in V) for a capacitor.

AAJ055-001 01   NR3..3.3ES2   H02
level minMax   real measure
Cel

rated temperature   T_r
T_r

The value as specified by level (minMax) of the rated temperature range (in Cel) for a capacitor.

AAJ056-001 01   NR3..3.3ES2   H02
level minMax   real measure
Cel

category temperature   T_c
T_c

The value as specified by level (minMax) of the category temperature range (in Cel) for a component.

NOTE
The category temperature range is that range of ambient temperatures over which the component may be operated continuously.

AAJ057-001 01   NR3 S..3.3ES2   E09
level miNoMax   real measure
%

capacitance change with temperature $DC/C
$\Delta C/C$

The value as specified by level (miNoMax) of the variation of capacitance (in %) with temperature over a specified temperature range (T_1 to T_2).

AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

AAJ058-001 01   NR3..3.3ES2   E44
level miNoMax   real measure
Ω

impedance of a capacitor   Z
Z

The value as specified by level (miNoMax) of the modulus of the impedance (in ohms) of a capacitor at a specified frequency.

AAE029-005 = frequency

AAJ059-001 01   M..8   A57
simple   non-quantitative code

filter type   filter type

Code of the type of filter.

ACT   = active filter
DIEL = dielectric filter
LCR   = LCR filter
MECH = mechanical filter
PIEZO = piezo-electric ceramic filter
SAW   = surface-acoustic-wave filter
TRAP = trap
XTL   = quartz-crystal filter

AAJ060-001 01   NR2..3.3   E06
level nom   real measure
V

rated voltage   V_r
V_r
U_r

The value of the nominal voltage (in V) applied across the terminals of a PTC thermistor at which the device is intended to operate.

AAJ061-001	01	NR2..3.3	E06
	level max	real measure	
		V	

maximum operating voltage   V_max
V_{max}
U_{max}

The value of the maximum voltage (in V) that may be appled across the terminals of a PTC thermistor.

AAJ062-001	01	NR3..3.3ES2	E01
	level max	real measure	
		A	

maximum current   I_max
I_{max}

The value of the maximum current (in A) that may be passed through a PTC thermistor at its rated voltage.

AAJ063-001	01	NR3..3.3ES2	E49
	level nom	real measure	
		W	

power consumption   P_l
P_l

The value of the maximum power that may be dissipated in a PTC thermistor at ambient temperature and with rated voltage applied.

AAE014-005 = ambient temperature

AAJ064-001	01	NR1..4	Q56
	level nom	integer measure	
		1	

number of poles   n_p
n_p

The number of electrically separate conductive paths that are controlled by a switch.

AAJ065-001	01	NR3..3.3ES2	T03
	level nom	real measure	
		m	

travel   e_tr
e_{tr}

The nominal distance (in m) between adjacent positions of a switch with rectilinear operation.

AAJ066-001	01	NR2..3.3	T01
	level nom	real measure	
		deg	

angular travel $a_tr
$alpha;_{tr}$

The nominal angular distance (in deg) between adjacent positions of a switch with rotary operation

AAJ067-001	01	NR2..3.3	A59
	level miNoMax	real measure	
		1	

operating life   n_cyc
n_{cyc}

The minimum number of operating cycles for which a switch is designed to undergo during its life.

AAJ068-001	01	M..35	A58
	simple	string	

shaft style   shaft style

The style of the operating shaft of a switch with rotary action.

AAJ069-001	01	NR3..3.3ES2	T03
	level miNoMax	real measure	
		m	

shaft length   L_shaft
L_{shaft}

The value as specified by level (miNoMax) of the length (in m) of the shaft of a switch having rotary action measured from the tip of the shaft to the mounting surface.

AAJ070-001	01	NR3..3.3ES2	T03
	level miNoMax	real measure	
		m	

shaft diameter   d_shaft
d_{shaft}

The value as specified by level (miNoMax) of the diameter (in m) of the shaft of a switch having rotary action.

| AAJ071-001 | 01 | M..70 | A55 |
| | simple | string | |

additional features   add features

Description of features that are incorporated in a switch in addition to the switching action

REMARKS:
Additional features may include such items as indicator lamps, locking mechanisms, earthing terminal etc.

| AAJ072-001 | 01 | M..70 | A55 |
| | simple | string | |

sealing   sealing

Description of the method of sealing of a switch.

AAJ073-001	01	NR2..3.3	F02
	level nom	real measure	
		s	

thermal time-constant (power) t_P
$$T_P$$

The nominal time (in s) for the temperature of a thermistor element to change by 63,2 % of the difference between its initial and final temperatures following an abrupt change in the power dissipated at constant ambient temperature.

| AAJ074-001 | 01 | M..8 | A57 |
| | simple | non-quantitative code | |

image pickup device type   image pickup ty

Code of the type of an image pickup device.

CCDA = CCD area array sensor
CCDL = CCD linear array sensor
MOS = MOS sensor

| AAJ075-001 | 01 | M..8 | A57 |
| | simple | non-quantitative code | |

signal transformer type signal transfor

Code of the type of a signal transformer.

HYB = hybrid
LF = low-frequency
PUL = pulse
RF = radio frequency
ROT = rotary
WB = wide-band

AAJ076-001	01	NR2..3.3	E22
	level nom	real measure	
		%	

inductance tolerance (%)   L_tol%
$$L_{tol\%}$$

The nominal tolerance (in %) of the value of inductance of an inductor.

REMARKS:
Used only in cases of equal positive and negative tolerance values.

AAJ077-001	01	NR2..3.3	E22
	level nom	real measure	
		%	

inductance tolerance   L_tol
$$L_{tol}$$

The nominal tolerance (in H) of the value of inductance of an inductor.

REMARKS:
Used only in cases of equal positive and negative tolerance values.

| AAJ078-001 | 01 | M..8 | A57 |
| | simple | non-quantitative code | |

variable inductor type   variable induct

Code of the type of a variable inductor.

ANT = antenna inductor
LF = low-frequency
RF = radio frequency

AAJ079-001	01	NR3..3.3ES2	E22
	level miNoMax	real measure	
		H	

minimum inductance   L_min
$$L_{min}$$

The value as specified by level (miNoMax) of the minimum value of the range of values of inductance (in H) of a variable inductor at specified frequency.

AAE029-005 = frequency

| AAJ080-001 | 01 | NR3..3.3ES2 | E22 |
| | level miNoMax | real measure H | |

maximum inductance **L_max**
L_{max}

The value as specified by level (miNoMax) of the maximum value of the range of values of inductance (in H) of a variable inductor at specified frequency.

AAE029-005 = frequency

| AAJ081-001 | 01 | M..8 | A57 |
| | simple | non-quantitative code | |

spark gap type **spark gap type**

Code of the type of spark gap.

AIR = air spark gap
GAS = gas-filled spark gap

| AAJ082-001 | 01 | NR2..3.3 | E06 |
| | level nom | real measure V | |

dc breakdown voltage **V_BR**
V_{BR}
U_{BR}

The nominal value of the voltage (in V) at which a discharge occurs between the electrodes of a spark gap as the voltage is gradually increased.

NOTE
The dc breakdown voltage is measured with a rate of voltage increase between 100 V/s and 500 V/s.

| AAJ083-001 | 01 | NR2..3.3 | E06 |
| | level nom | real measure V | |

breakdown voltage tolerance **V_BR(tol)**
$V_{BR(tol)}$
$U_{BR(tol)}$

The nominal value of the tolerance (in V) of the dc breakdown voltage of a spark gap.

REMARKS:
Used only in cases of equal positive and negative tolerance values.

| AAJ084-001 | 01 | NR3..3.3ES2 | E09 |
| | level max | real measure F | |

capacitance **C_gap**
C_{gap}

The maximum value of the capacitance (in F) between the electrodes of a spark gap at specified frequency and temperature.

AAE029-005 = frequency
AAE685-005 = temperature

| AAJ085-001 | 01 | NR2..3.3 | E06 |
| | level max | real measure V | |

withstanding voltage **V_with**
V_{with}
U_{with}

The maximum value of the ac voltage that may be applied across the electrodes of a gas-filled spark gap without causing breakdown.

| AAJ086-001 | 01 | NR2..3.3 | E01 |
| | level max | real measure A | |

surge current **I_surge**
I_{surge}

The maximum value of the pulse current (in A) which can be passed through a gas-filled spark gap.

REMARKS:
Test measurements are made with pulse waveforms of 8 µs to 20 µs.

| AAJ087-001 | 01 | NR3..3.3ES2 | E33 |
| | level min | real measure Ω | |

insulation resistance **R_ins**
R_{ins}

The minimum resistance (in ohms) between one terminal or several terminals connected together and the case or enclosure of a component at specified voltage.

AAJ088-001 01   M..8   A57
         simple   non-quantitative code

resonator type   resonator type

Code of the type of resonator.

CAV   = cavity resonator
DIEL   = dielectric resonator
LCR   = LC/CR resonator
MECH   = mechanical resonator
MR   = magnetostrictive resonator
PIEZO   = piezo-electric ceramic resonator
SAW   = surface-acoustic-wave resonator
XTL   = quartz-crystal resonator

AAJ089-001 01   NR3..3.3ES2   F03
         level nom   real measure
                      Hz

resonant frequency   f_0
                         f_0

The nominal frequency (in Hz) at which a resonator produces its maximum response.

AAJ090-001 01   NR3..3.3ES2   E46
         level miNoMax   real measure
                      1

quality factor   Q
Q-factor   Q

The value as specified by level (miNoMax) of the quality factor of a resonator at a specified frequency.

AAE029-005 = frequency

AAJ091-001 01   NR3..3.3ES2   T07
         level max   real measure
                      s

access time from address   t_AA
                              t_{AA}

The maximum time interval (in s) between the application of the address input, other necessary inputs being already present, and the availability of valid data signals at an output of a DRAM.

AAJ092-001 01   NR3..3.3ES2   T07
         level max   real measure
                      s

access time from clock t_AC
                         t_{AC}

The maximum time interval (in s) between the application of the clock pulse, other necessary inputs being already present, and the availability of valid data signals at an output of a DRAM.

AAJ093-001 01   NR3..3.3ES2   T07
         level min   real measure
                      s

burst-mode cycle time   t_CK
                         t_{CK}

The minimum time interval (in s) that must elapse between successive read/write operations for a DRAM operating in burst mode.

AAJ094-001 01   NR3..3.3ES2   T07
         level min   real measure
                      s

random read/write cycle time   t_RC
                                t_{RC}

The minimum time interval (in s) that must elapse between successive random read/write operations for a DRAM.

AAJ095-001 01   NR3..3.3ES2   T07
         level max   real measure
                      s

access time from RAS   t_RAC
                         t_{RAC}

The maximum time interval (in s) between the application of the RAS Row Address Strobe) input pulse, other necessary inputs being already present, and the availability of valid data signals at an output of a DRAM.

AAJ096-001 01   NR3..3.3ES2   T07
         level max   real measure
                      Hz

clock frequency   f_CK
                          f_{CK}

The maximum time frequency (in Hz) of the clock signal applied to a DRAM.

AAJ098-001	01	NR3 S..3.3ES2	T07
	level min	real measure s	

address set-up time   **t_AS**
t_{AS}

The minimum time interval (in s) between application of a signal that is maintained at the address input terminal and a subsequent active transition of the corresponding timing pulse of a memory device at specified supply voltage and in a temperature range between specified temperatures (T_1 and T_2).

AAE102-005 = supply voltage
AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

REMARKS:
For further information, refer to AAF212.

AAJ099-001	01	NR3 S..3.3ES2	T07
	level min	real measure s	

address hold time   **t_AH**
t_{AH}

The minimum time interval (in s) during which the address signal must be retained at an input terminal after the subsequent active transition of the corresponding timing signal of a memory device at specified supply voltage and in a temperature range between specified temperatures (T_1 and T_2).

AAE102-005 = supply voltage
AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

REMARKS:
For further information, refer to AAF213.

AAJ100-001	01	NR3 S..3.3ES2	T07
	level min	real measure s	

input set-up time   **t_IS**
t_{IS}

The minimum time interval (in s) between application of a signal that is maintained at an input terminal and a subsequent active transition of the corresponding timing pulse of a memory device at specified supply voltage and in a temperature range between specified temperatures (T_1 and T_2).

AAE102-005 = supply voltage
AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

REMARKS:
For further information, refer to AAF212.

AAJ101-001	01	NR3 S..3.3ES2	T07
	level min	real measure s	

input hold time   **t_IH**
t_{IH}

The minimum time interval (in s) during which a signal must be retained at an input terminal after the subsequent active transition of the corresponding timing signal of a memory device at specified supply voltage and in a temperature range between specified temperatures (T_1 and T_2).

AAE102-005 = supply voltage
AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

REMARKS:
For further information, refer to AAF213.

AAJ102-001	01	NR3 S..3.3ES2	T07
	level min	real measure s	

clock set-up time   **t_CKS**
t_{CKS}

The minimum time interval (in s) between application of the clock signal that is maintained at an input terminal and a subsequent active transition of the corresponding timing pulse of a memory device at specified supply voltage and in a temperature range between specified temperatures (T_1 and T_2).

AAE102-005 = supply voltage
AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

REMARKS:
For further information, refer to AAF212.

AAJ103-001 01   NR3 S..3.3ES2   T07
                level min   real measure
                             s

clock hold time   t_CKH
                           t_{CKH}

The minimum time interval (in s) during which the
clock signal must be retained at an input terminal
after the subsequent active transition of the
corresponding timing signal of a memory device at
specified supply voltage and in a temperature range
between specified temperatures (T_1 and T_2).

AAE102-005 = supply voltage
AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

REMARKS:
For further information, refer to AAF213.

AAJ104-001 01   NR3 S..3.3ES2   T07
                level min   real measure
                             s

output hold time   t_OH
                           t_{OH}

The minimum time interval (in s) during which a
signal is retained at an output terminal after the
subsequent active transition of the corresponding
timing signal of a memory device at specified supply
voltage and in a temperature range between
specified temperatures (T_1 and T_2).

AAE102-005 = supply voltage
AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

REMARKS:
For further information, refer to AAF213.

AAJ105-001 01   NR3..3.3ES2   T07
                level minMax   real measure
                             s

transition time   t_T
                           t_T

The limits to the value as specified by level (minMax)
of the HIGH-to-LOW or LOW-to-HIGH level transition
time (in s) which must be observed at the clock input
of a memory device at specified supply voltage and
in a temperature range between specified
temperatures (T_1 and T_2).

NOTE
The LOW voltage level is specified as VIL and the
HIGH level as VIH.

AAE102-005 = supply voltage
AAE958-005 = temperature T_1
AAE959-005 = temperature T_2

AAJ106-001 01   M..8   A57
                simple   non-quantitative code

dielectric material   dielectric
dielectric
insulator

Code for the type of a dielectric material.

CER = ceramic
CLO = cloth
GLA = glass
MIC = mica
PAP = paper
RUB = rubber
WOO = wood

AAJ107-001 01   M..8   A57
                simple   non-quantitative code

printed wiring base material   PW base
printed wiring base
PW base

Code for the type of base material used in a printed
wiring laminate.

GCN = glass cloth, non-woven core
GCP = glass cloth, paper core
GLF = glass fabric
GMP = glass mod-and-un polyimide
GTE = glass ismal/triaz/epox
PER = paper base, epoxy resin
PPR = paper base, phenolic resin
SFF = synthetic fibre fabric

AAJ108-001 01   NR3..3.3ES2   T03
                level nom   real measure

copper thickness   t_Cu
Cu thickness t_{Cu}

The nominal thickness (in m) of the copper cladding
on a printed-wiring laminate.

AAJ109-001 01   NR1..2   Q56
                level nom   integer measure

number of layers   n_lay
                           n_{lay}

The number of layers in a multilayer printed-wiring
circuit.

AAJ110-001 01   NR3..3.3ES2   T03
level miNoMax   real measure

circuit length   D
board length   D

The length (in m) of a printed wiring circuit as given by level (miNoMax).

AAJ111-001 01   NR3..3.3ES2   T03
level miNoMax   real measure

circuit width   E
board width   E

The width (in m) of a printed wiring circuit as given by level (miNoMax).

AAJ112-001 01   NR3..3.3ES2   T03
level min   real measure

track width   d_w
                    d_w

The minimum width (in m) of a conductive track on a printed wiring circuit.

AAJ113-001 01   NR3..3.3ES2   T03
level min   real measure

track spacing   d_s
                    d_s

The minimum spacing (in m) between adjacent conductive tracks on a printed wiring circuit.

AAJ114-001 01   M..35   A57
simple   string

connector material   con finish
connector finish

The material used to coat or finish the conducting strips forming connections at the edge of a printed wiring circuit.

AAJ115-001 01   NR3..3.3ES2   T03
level nom   real measure

connector pitch   e
                    e

The nominal distance (in m) between the centres of adjacent conducting strips forming connections at the edge of a printed wiring circuit.

AAJ116-001 01   M..8   A55
simple   non-quantitative code

printed circuit type   PW type
printed board type
PC board type

Code for the type of printed wiring circuit or board.

BUP   = build-up
CER   = ceramic-based
DFR   = double-sided flex-rigid
MET   = metal-based
MFR   = multi-layer flex-rigid
MLF   = multi-layer flexible
MLR   = multi-layer rigid
SDF   = single- or double-sided flexible
SDR   = single- or double-sided rigid

AAJ117-001 01   M..8   A55
simple   non-quantitative code

microwave component type   microwave type

Code for the type of microwave component.

ATT   = attenuator
CIRC   = circulator
COAX   = coaxial guide
COUP   = coupler
DET   = detector
DIR   = directional coupler
DIV   = divider/combiner
ISO   = isolator
MIX   = mixer
PS   = phase shifter
RES   = resonator
SWI   = switch
TERM   = terminator
WAV   = waveguide

AAJ118-001 01   M..8   A55
simple   non-quantitative code

connection type   connect type

Code for the type of connection for a microwave component.

CONN   = connector
PIN   = pin
SL   = strip-line
SM   = surface-mount
WAV   = waveguide

AAJ119-001 01   NR1 S..4   E49
level miNoMax   integer measure
dB

insertion loss   insertion loss
                    insertion loss

The value as specified by level (miNoMax) of the
insertion loss (in dB) of a microwave component.

AAJ120-001 01   NR1 S..4   E49
level miNoMax   integer measure
dB

isolation   isolation
                    isolation

The value as specified by level (miNoMax) of the
attenuation (in dB) provided in a direction opposite
to that of the normal signal flow of a microwave
component.

AAJ121-001 01   NR3..3.3ES2   E35
level max   real measure
W

maximum power handling   P_max
maximum power P_{max}

The maximum value of the power (in W) which may
be handled or transmitted by a microwave
component.

AAJ122-001 01   NR3..3.3ES2   F03
level minMax   real measure
Hz

frequency range   f_range
frequency band f_{range}

The value as specified by level (minMax) of the
frequencies (in Hz) over which a microwave
component is designed to operate.

AAJ123-001 01   M..8   A55
simple   non-quantitative code

potentiometer type   POT type

Code for the type of potentiometer.

MULT = multi-turn rotary
SING = single-turn rotary

AAJ124-001 01   NR2..3.3   Q56
level nom   real measure
1

number of turns   n_turn
                          n_{turn}

The nominal value of the number of turns required to
cover the full electrical range of a multi-turn rotary
potentiometer.
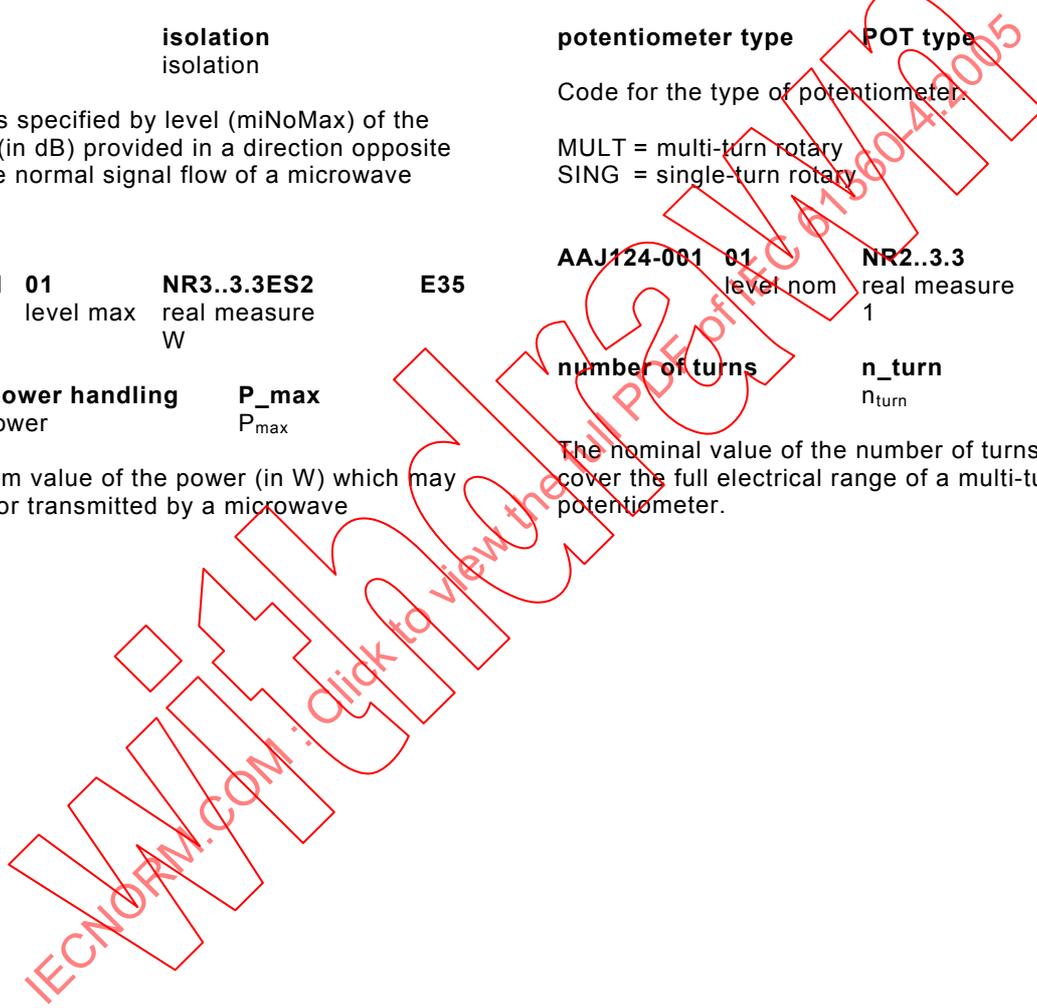
Annex D
(normative)

Drawings

D.1   Drawing definitions

The following table lists the drawings which are contained within this annex.

DAA001-001   01

ABD-W-T001

Bead package, straight axial wire leads

DXF   DAA001.DXF
JPEG   DAA001.JPG
Windows Meta-File   DAA001.WMF

DAA02-001   01

BBD-W-T001

Bead package, straight bottom wire leads

DXF   DAA002.DXF
JPEG   DAA002.JPG
Windows Meta-File   DAA002.WMF

DAA003-001   01

BBD-W-T002

Bead package, formed bottom wire leads

DXF   DAA003.DXF
JPEG   DAA003.JPG
Windows Meta-File   DAA003.WMF

DAA004-001   01

BCY-W-T003

Cylindrical package, bottom leads on circle

DXF   DAA004.DXF
JPEG   DAA004.JPG
Windows Meta-File   DAA004.WMF

DAA005-001   01

BCY-W-T004

Cylindrical package, straight in-line bottom leads

DXF   DAA005.DXF
JPEG   DAA005.JPG
Windows Meta-File   DAA005.WMF

DAA06-001   01

BCY-W-T005

Cylindrical package, formed in-line bottom leads

DXF   DAA006.DXF
JPEG   DAA006.JPG
Windows Meta-File   DAA006.WMF

DAA07-001   01

BCY-W-T006

Cylindrical package, bottom leads on square grid

DXF   DAA007.DXF
JPEG   DAA007.JPG
Windows Meta-File   DAA007.WMF

DAA008-001   01

BCY-W-T007

Cylindrical package, offset in-line bottom leads

DXF   DAA008.DXF
JPEG   DAA008.JPG
Windows Meta-File   DAA008.WMF

DAA009-001   01

ECY-R-T000

Cylindrical package, wrap-around terminals

DXF   DAA009.DXF
JPEG   DAA009.JPG
Windows Meta-File   DAA009.WMF

DAA010-001   01

RCY-D-T001

Cylindrical package, straight radial tag leads

DXF   DAA010.DXF
JPEG   DAA010.JPG
Windows Meta-File   DAA010.WMF

DAA011-001   01

RCY-W-T001

Cylindrical package, straight radial wire leads

DXF   DAA011.DXF
JPEG   DAA011.JPG
Windows Meta-File   DAA011.WMF

DAA012-001   01

ADB-W-T001

Disc package, straight axial wire leads

DXF   DAA012.DXF
JPEG   DAA012.JPG
Windows Meta-File   DAA012.WMF

DAA013-001   01

BDB-W-T001

Disc package, straight bottom wire leads

DXF   DAA013.DXF
JPEG   DAA013.JPG
Windows Meta-File   DAA013.WMF

DAA014-001   01

BDB-W-T002

Disc package, formed bottom wire leads

DXF   DAA014.DXF
JPEG   DAA014.JPG
Windows Meta-File   DAA014.WMF

DAA015-001   01

BFM-P-T007

Oval flange-mount package, offset bottom pins

DXF   DAA015.DXF
JPEG   DAA015.JPG
Windows Meta-File   DAA015.WMF

DAA016-001   01

BFM-P-T003

Oval flange-mount package, bottom pins on circle

DXF   DAA016.DXF
JPEG   DAA016.JPG
Windows Meta-File   DAA016.WMF

DAA017-001   01

DFM-P-T009

Flange-mount package, dual-in-line pins

DXF   DAA017.DXF
JPEG   DAA017.JPG
Windows Meta-File   DAA017.WMF

DAA018-001   01

SFM-T-T011

Flange-mount package, single row, straight flat leads

DXF   DAA018.DXF
JPEG   DAA018.JPG
Windows Meta-File   DAA018.WMF

DAA019-001   01

SFM-T-T023

Flange-mount package, single row, straight V-section leads

DXF   DAA019.DXF
JPEG   DAA019.JPG
Windows Meta-File   DAA019.WMF

DAA020-001   01

DFP-F-T001

Dual flat pack, straight flat leads

DXF   DAA020.DXF
JPEG   DAA020.JPG
Windows Meta-File   DAA020.WMF

DAA021-001   01

BGA-B-T012

Ball-grid array package, bottom terminals

DXF   DAA021.DXF
JPEG   DAA021.JPG
Windows Meta-File   DAA021.WMF

DAA022-001   01

DIP-P-T009

Dual-in-line package, round pins

DXF   DAA022.DXF
JPEG   DAA022.JPG
Windows Meta-File   DAA022.WMF

DAA023-001   01

DIP-P-T010

Dual-in-line package, rectangular pins

DXF   DAA023.DXF
JPEG   DAA023.JPG
Windows Meta-File DAA023.WMF

DAA024-001   01

DIP-T-T000

Dual-in-line package, standard through-hole
leads

DXF   DAA024.DXF
JPEG   DAA024.JPG
Windows Meta-File DAA024.WMF

DAA025-002   01

UPM-D-T013

Stud-mount package, one fixed tag

DXF   DAA025.DXF
JPEG   DAA025.JPG
Windows Meta-File DAA025.WMF

DAA026-002   01

UPM-D-T014

Stud-mount package, two fixed tags

DXF   DAA026.DXF
JPEG   DAA026.JPG
Windows Meta-File DAA026.WMF

DAA027-002   01

UPM-H-T015

Stud-mount package, one flexible lead with tag

DXF   DAA027.DXF
JPEG   DAA027.JPG
Windows Meta-File DAA027.WMF

DAA028-002   01

UPM-H-T016

Stud-mount package, two flexible leads with
tags

DXF   DAA028.DXF
JPEG   DAA028.JPG
Windows Meta-File DAA028.WMF

DAA029-002   01

UPM-H-T017

Stud-mount package, three flexible leads with
tags

DXF   DAA029.DXF
JPEG   DAA029.JPG
Windows Meta-File DAA029.WMF

DAA030-002   01

UPM-H-T018

Stud-mount package, one flexible lead, no tag

DXF   DAA030.DXF
JPEG   DAA030.JPG
Windows Meta-File DAA030.WMF

DAA031-001   01

ARC-D-T019

Rectangular package, axial strip leads

DXF   DAA031.DXF
JPEG   DAA031.JPG
Windows Meta-File DAA031.WMF

DAA032-001   01

ARC-W-T007

Rectangular package, offset axial wire leads

DXF   DAA032.DXF
JPEG   DAA032.JPG
Windows Meta-File DAA032.WMF

DAA033-001   01

BRC-W-T001

Rectangular package, straight bottom wire
leads

DXF   DAA033.DXF
JPEG   DAA033.JPG
Windows Meta-File DAA033.WMF

DAA034-001   01

BRC-W-T002

Rectangular package, formed bottom wire
leads

DXF   DAA034.DXF
JPEG   DAA034.JPG
Windows Meta-File DAA034.WMF

DAA035-001   01

ERC-M-T000

Rectangular package, metallised ends

DXF   DAA035.DXF
JPEG   DAA035.JPG
Windows Meta-File   DAA035.WMF

DAA036-001   01

ERC-R-T000

Rectangular package, wrap-around terminals

DXF   DAA036.DXF
JPEG   DAA036.JPG
Windows Meta-File   DAA036.WMF

DAA037-001   01

DSO-G-T020

Dual small-outline package, multiple gull-wing leads

DXF   DAA037.DXF
JPEG   DAA037.JPG
Windows Meta-File   DAA037.WMF

DAA038-001   01

DSO-G-T021

Small-outline package, three gull-wing leads

DXF   DAA038.DXF
JPEG   DAA038.JPG
Windows Meta-File   DAA038.WMF

DAA039-001   01

SSO-G-T022

Small-outline package, two gull-wing leads, stub and tab

DXF   DAA039.DXF
JPEG   DAA039.JPG
Windows Meta-File   DAA039.WMF

DAA040-001   01

QCC-J-T000-B002

Quad chip carrier, J-bend leads, non-bumped package

DXF   DAA040.DXF
JPEG   DAA040.JPG
Windows Meta-File   DAA040.WMF

DAA041-001   01

QCC-N-T000-B009

Quad chip carrier, leadless non-cavity package (moulded)

DXF   DAA041.DXF
JPEG   DAA041.JPG
Windows Meta-File   DAA041.WMF

DAA042-001   01

QCC-N-T000-B010

Quad chip carrier, leadless cavity package (ceramic)

DXF   DAA042.DXF
JPEG   DAA042.JPG
Windows Meta-File   DAA042.WMF

DAA043-001   01

ACY-W-T001-B003

Cylindrical package, straight axial wire leads

DXF   DAA043.DXF
JPEG   DAA043.JPG
Windows Meta-File   DAA043.WMF

DAA044-001   01

ACY-W-T001-B004

Top-hat package, straight axial wire leads

DXF   DAA044.DXF
JPEG   DAA044.JPG
Windows Meta-File   DAA044.WMF

DAA045-001   01

UCY-D-T000-B005

Cylindrical package, top tag terminals, clamp mount

DXF   DAA045.DXF
JPEG   DAA045.JPG
Windows Meta-File   DAA045.WMF

DAA046-002   01

UCY-D-T000-B006

Cylindrical package,   top tag terminals, stud mount

DXF   DAA046.DXF
JPEG   DAA046.JPG
Windows Meta-File   DAA046.WMF

DAA047-001   01

UCY-Y-T000-B005

Cylindrical package, top screw terminals, clamp mount

DXF   DAA047.DXF
JPEG   DAA047.JPG
Windows Meta-File   DAA047.WMF

DAA048-002   01

UCY-Y-T000-B006

Cylindrical package, top screw terminals, stud mount

DXF   DAA048.DXF
JPEG   DAA048.JPG
Windows Meta-File   DAA048.WMF

DAA049-001   01

QFP-G-T000-B002

Quad flat pack, gull-wing leads, non-bumped package
DXF   DAA049.DXF
JPEG   DAA049.JPG
Windows Meta-File   DAA049.WMF

DAA050-001   01

PGA-P-T009-B007

Pin-grid array package, cavity up

DXF   DAA050.DXF
JPEG   DAA050.JPG
Windows Meta-File   DAA050.WMF

DAA051-001   01

PGA-P-T009-B008

Pin-grid array package, cavity down

DXF   DAA051.DXF
JPEG   DAA051.JPG
Windows Meta-File   DAA051.WMF
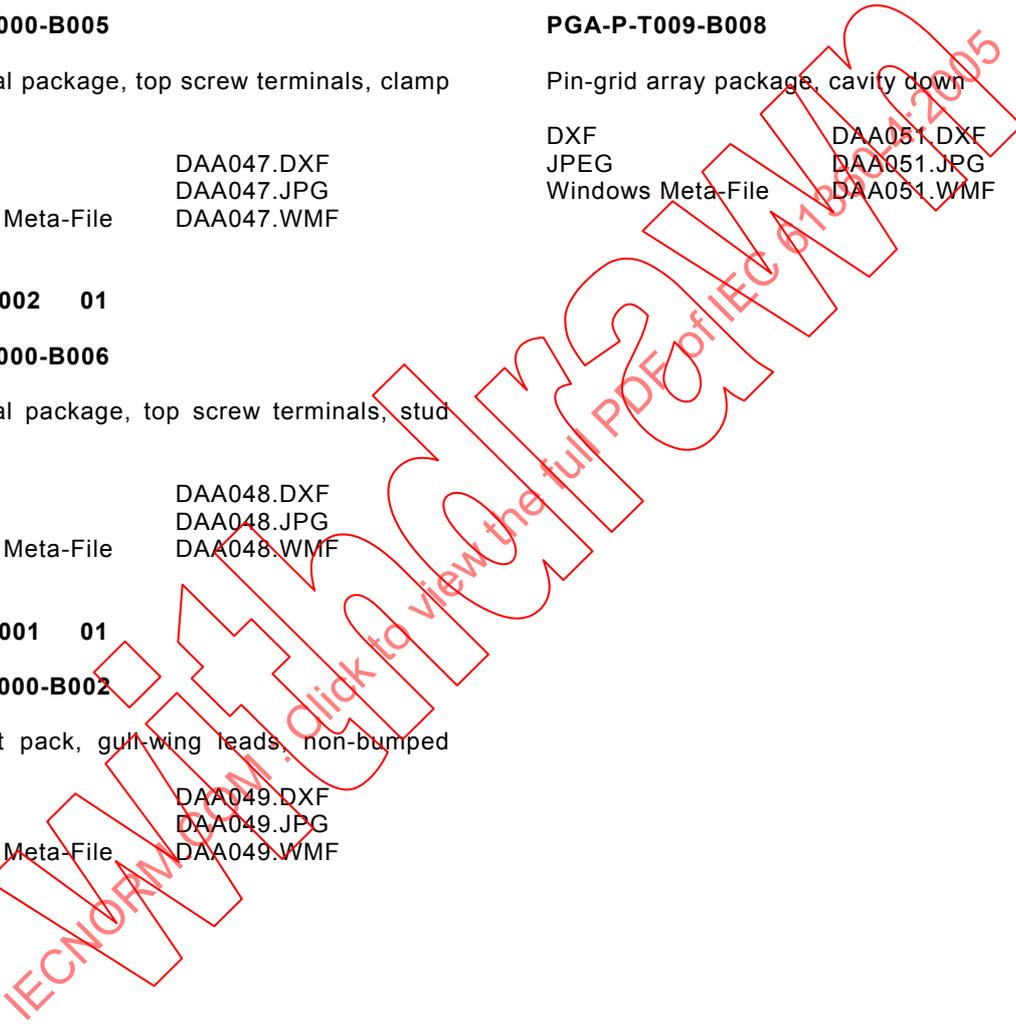
D.2   Drawings

Bead package, straight axial wire leads	**DAA001** ABD-W-T001
First-angle projection	Version 001, revision 01

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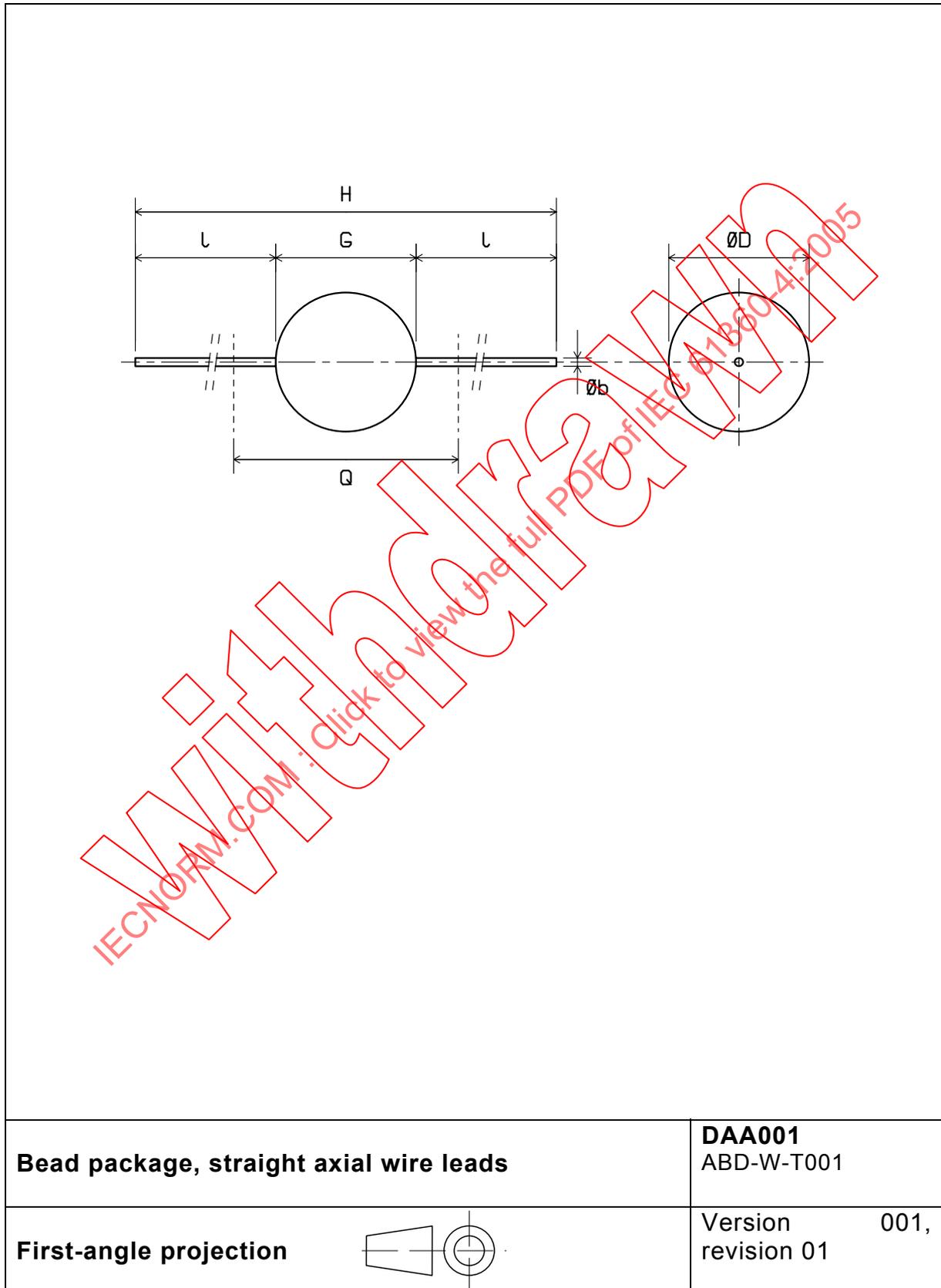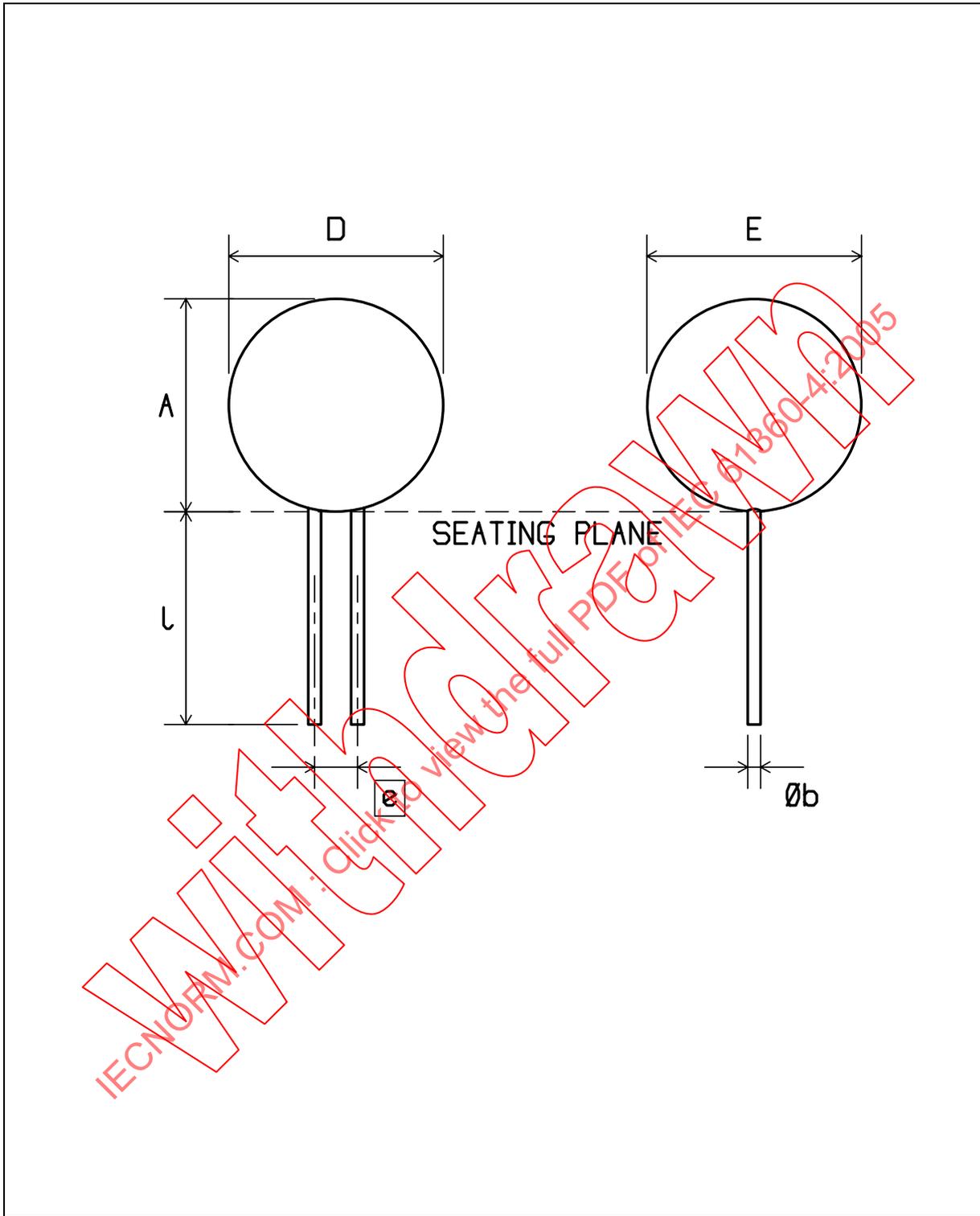
Bead package, straight bottom wire leads	**DAA002** BBD-W-T001
First-angle projection	Version 001, revision 01
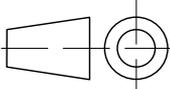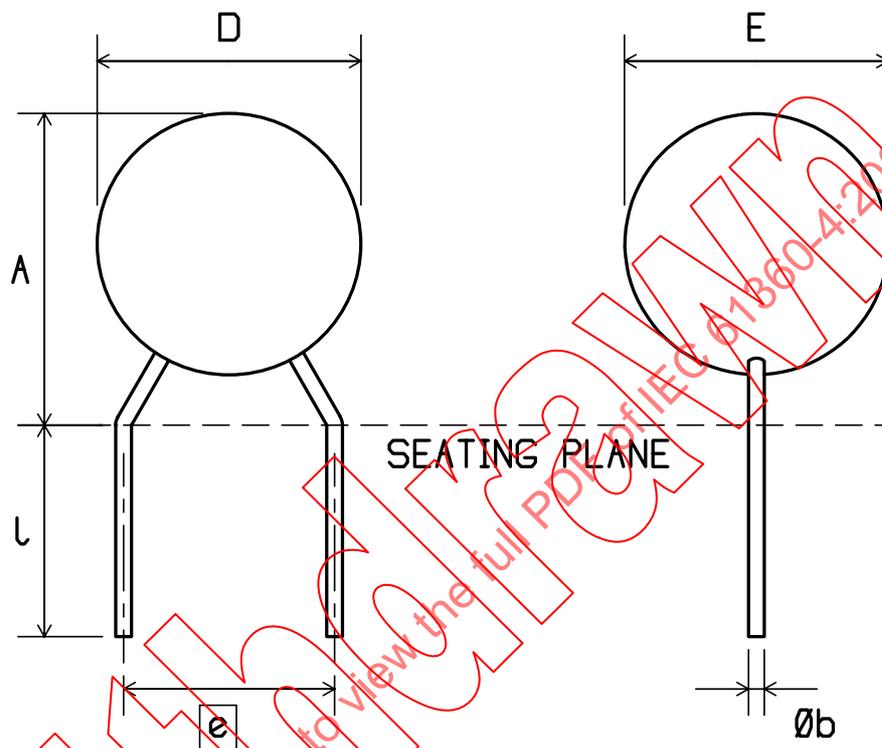
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DAA003
BBD-W-T002

Bead package, formed bottom wire leads

First-angle projection

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revision 01

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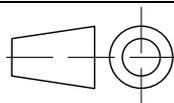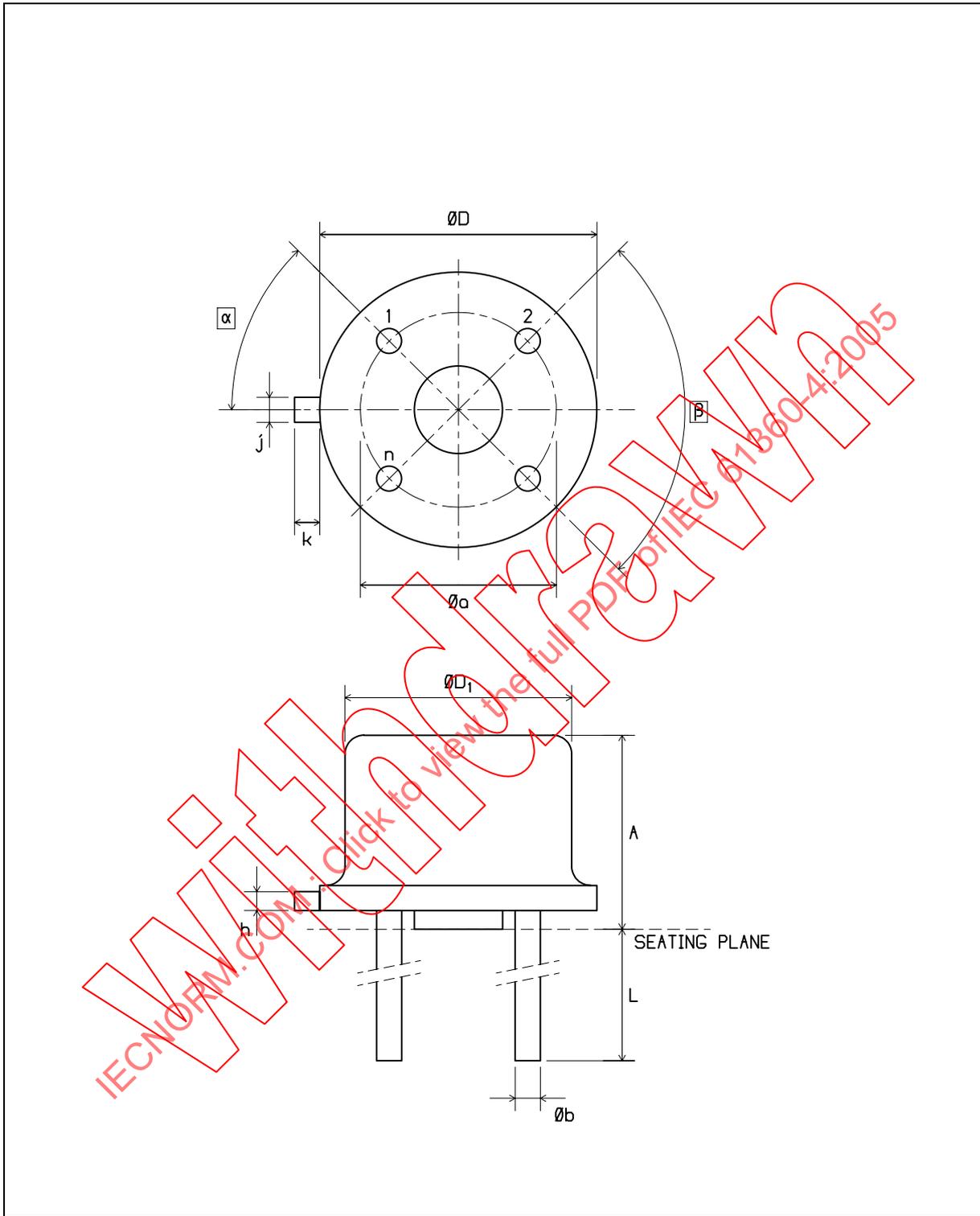
Cylindrical package, bottom leads on circle	**DAA004** BCY-W-T003
First-angle projection	Version 001, revision 01

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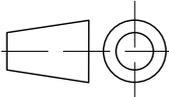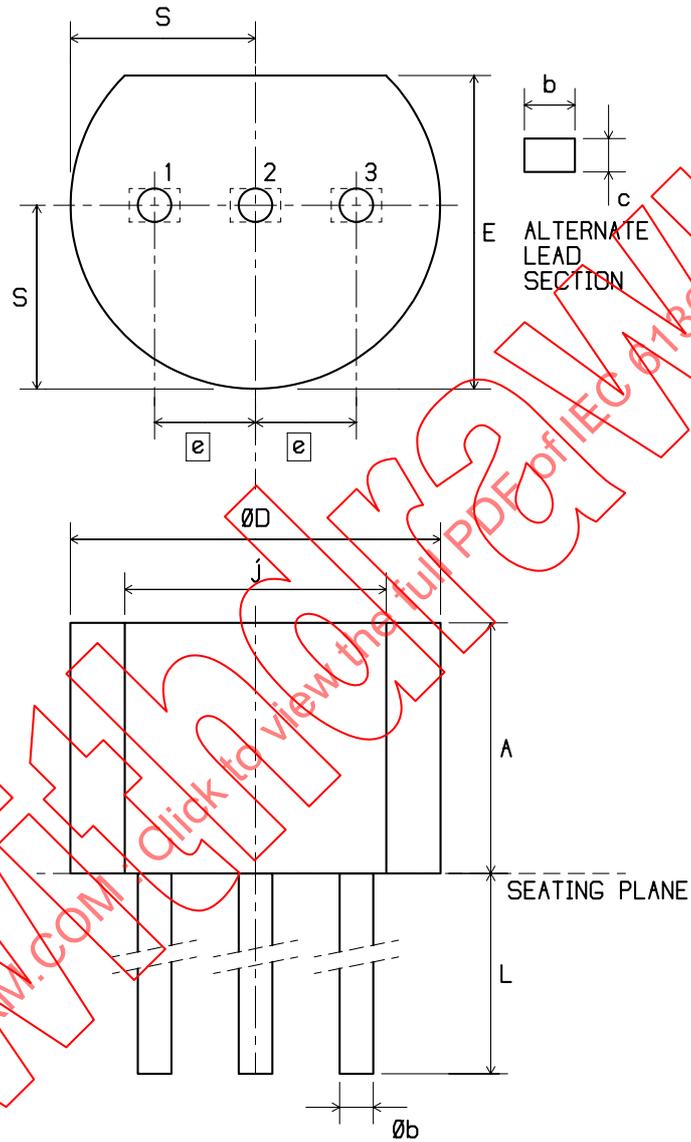
Cylindrical package, straight in-line bottom leads	**DAA005** BCY-W-T004
First-angle projection	Version 001, revision 01

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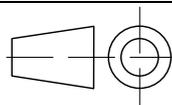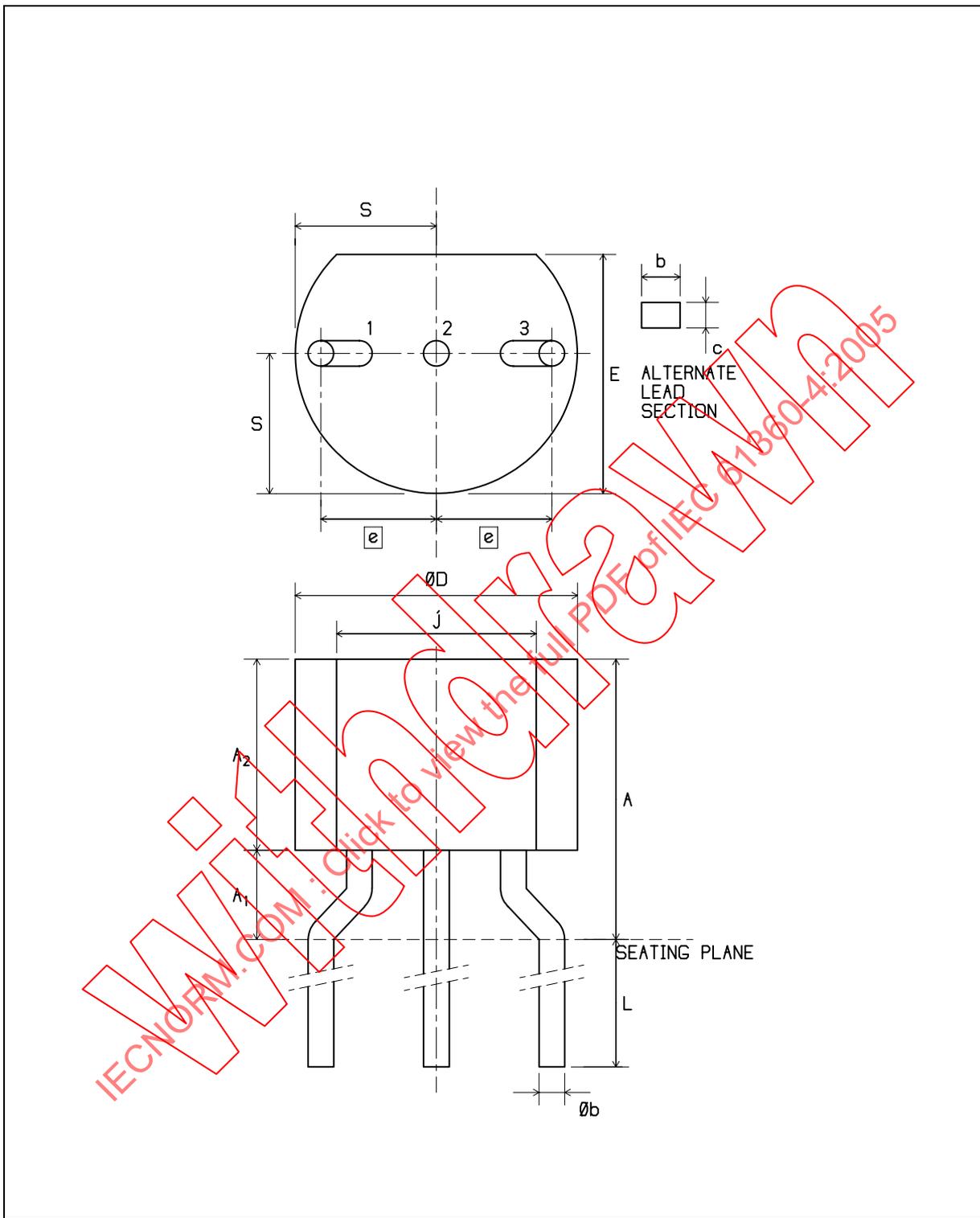
Cylindrical package, formed in-line bottom leads	**DAA006** BCY-W-T005
First-angle projection	Version 001, revision 01
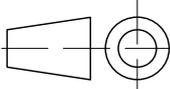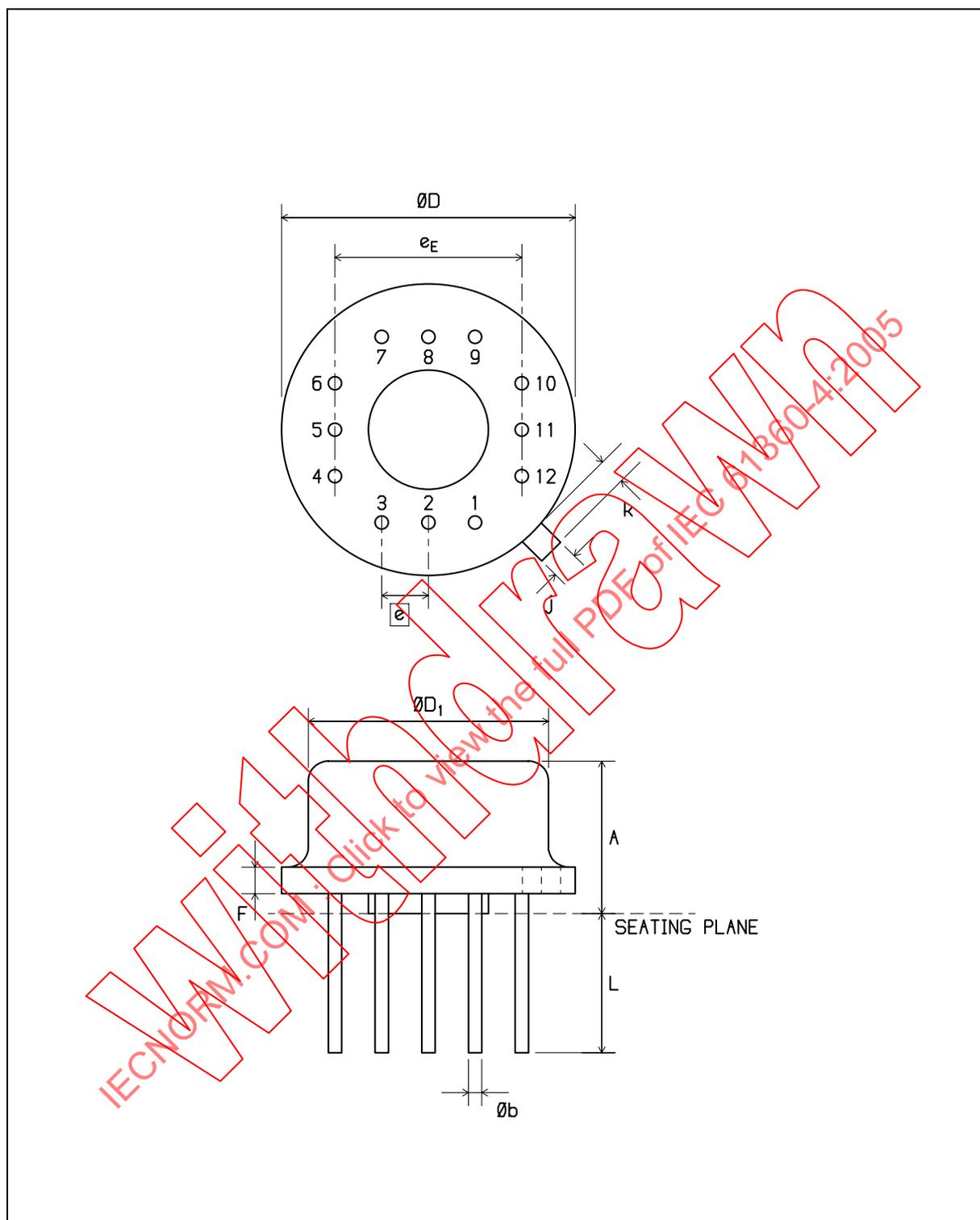
Cylindrical package, bottom leads on square grid	**DAA007** BCY-W-T006
First-angle projection	Version 001, revision 01
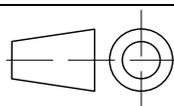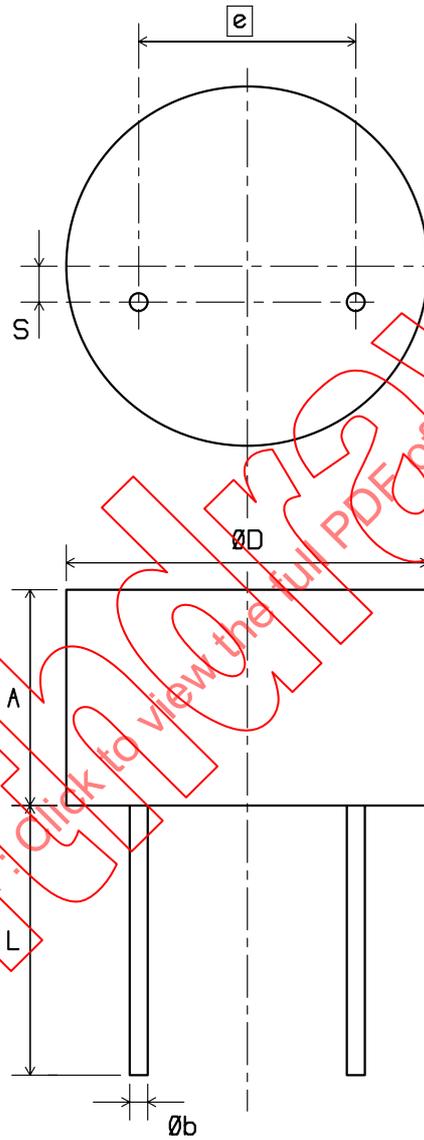
Cylindrical package, offset in-line bottom leads	**DAA008** BCY-W-T007
First-angle projection	Version 001, revision 01
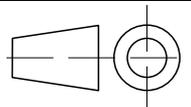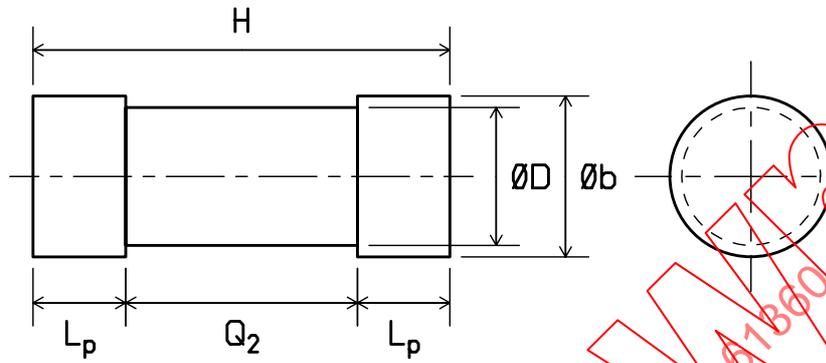
Cylindrical package, wrap-around terminals	**DAA009** ECY-R-T000
First-angle projection	Version 001, revision 01

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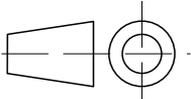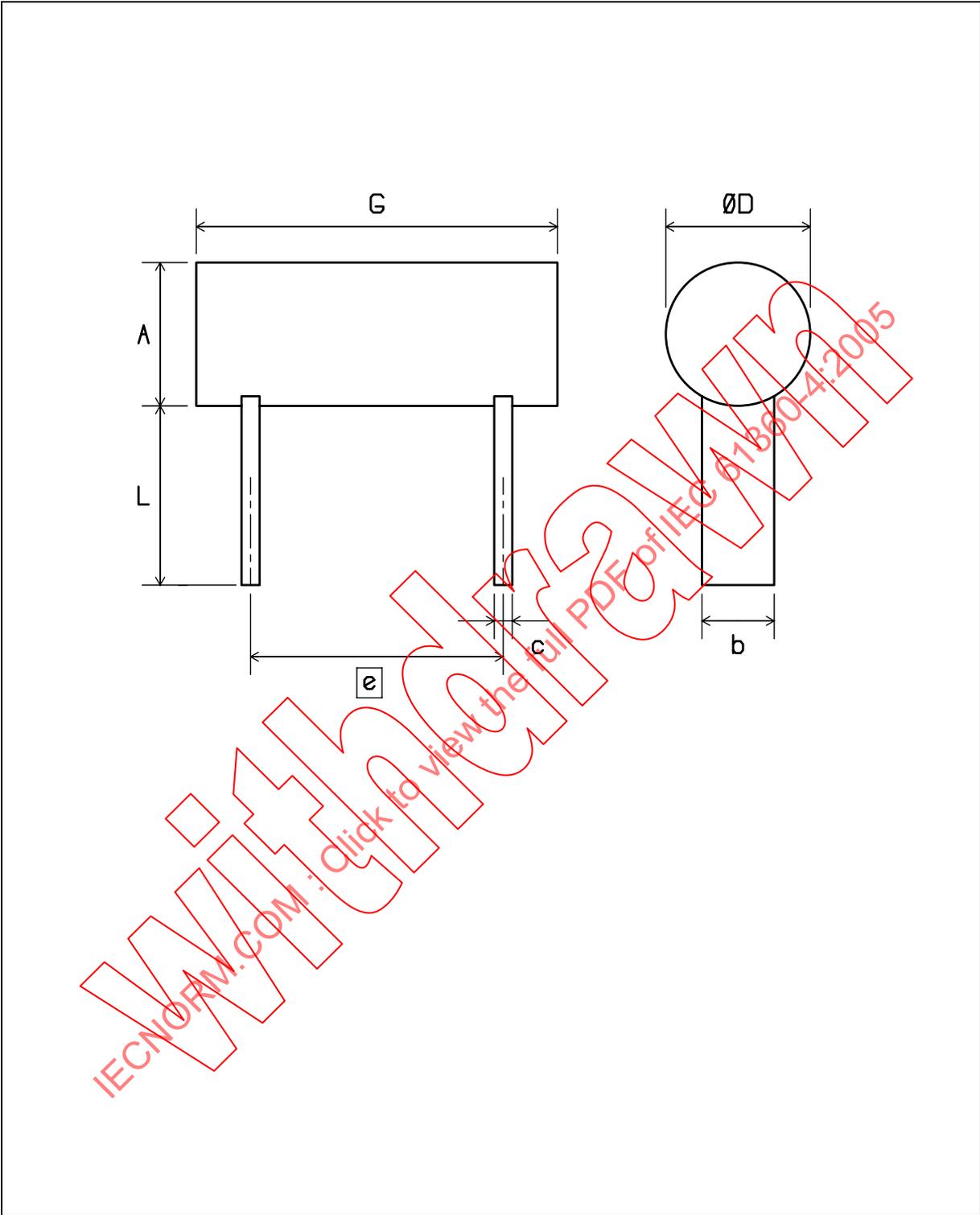
Cylindrical package, radial tag leads	**DAA010** RCY-D-T001
First-angle projection	Version 001, revision 01

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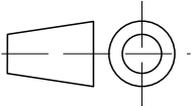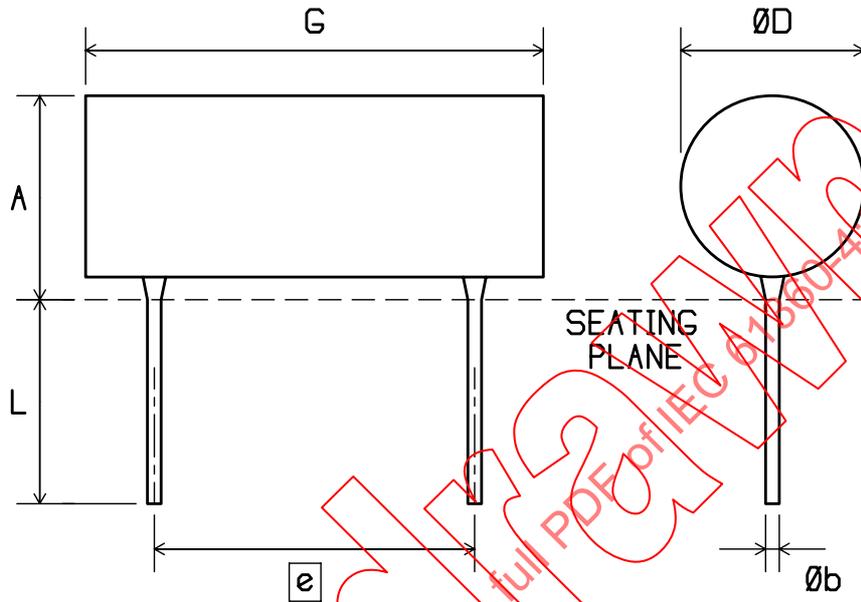
Cylindrical package, straight radial wire leads	**DAA011** RCY-W-T001
First-angle projection	Version 001, revision 01

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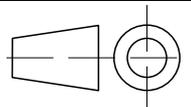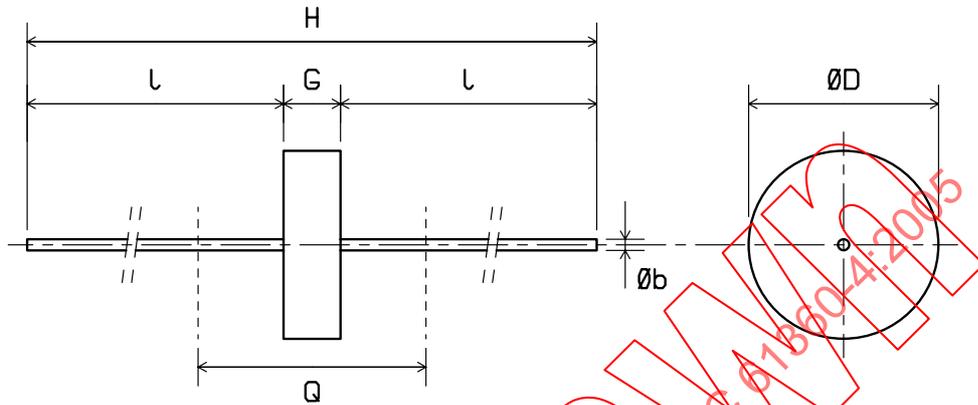
Disc package, straight axial wire leads	**DAA012** ADB-W-T001
First-angle projection	Version 001, revision 01
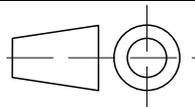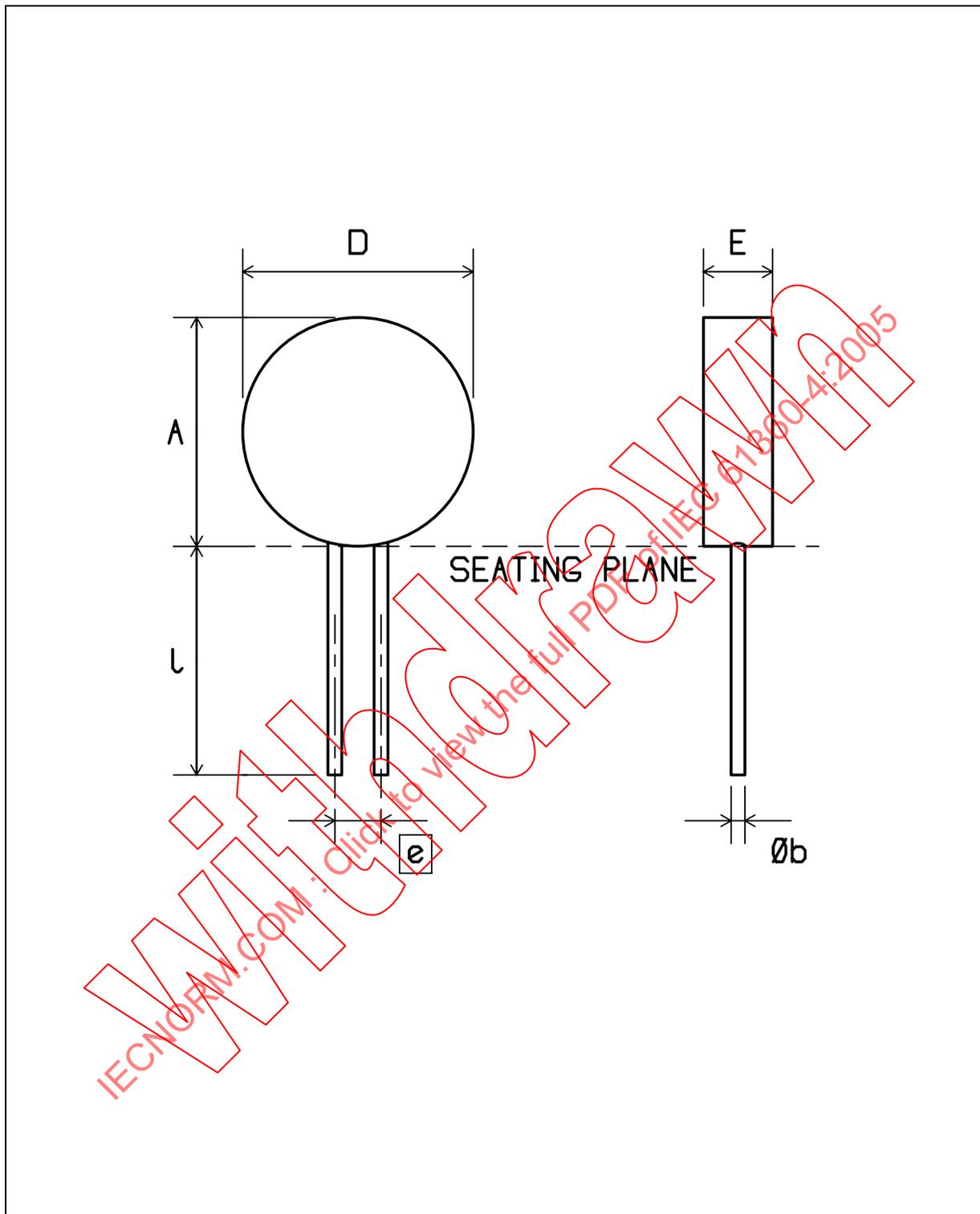
Disc package, straight bottom wire leads	**DAA013** BDB-W-T001
First-angle projection	Version 001, revision 01

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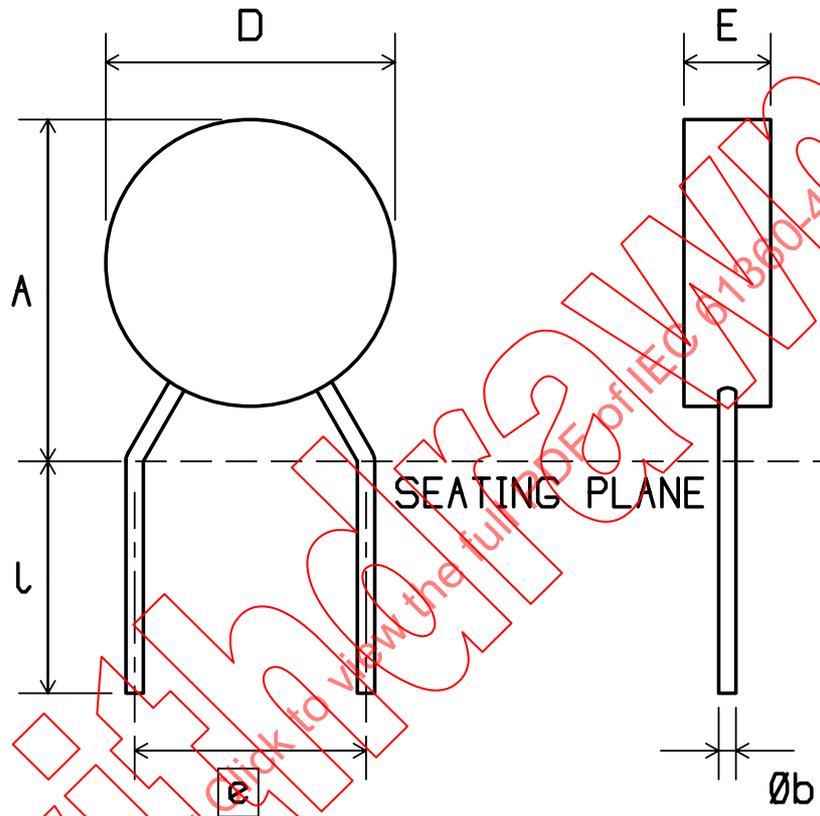
Disc package, formed bottom wire leads	**DAA014** BDB-W-T002
First-angle projection	Version 001, revision 01
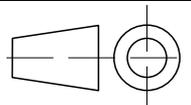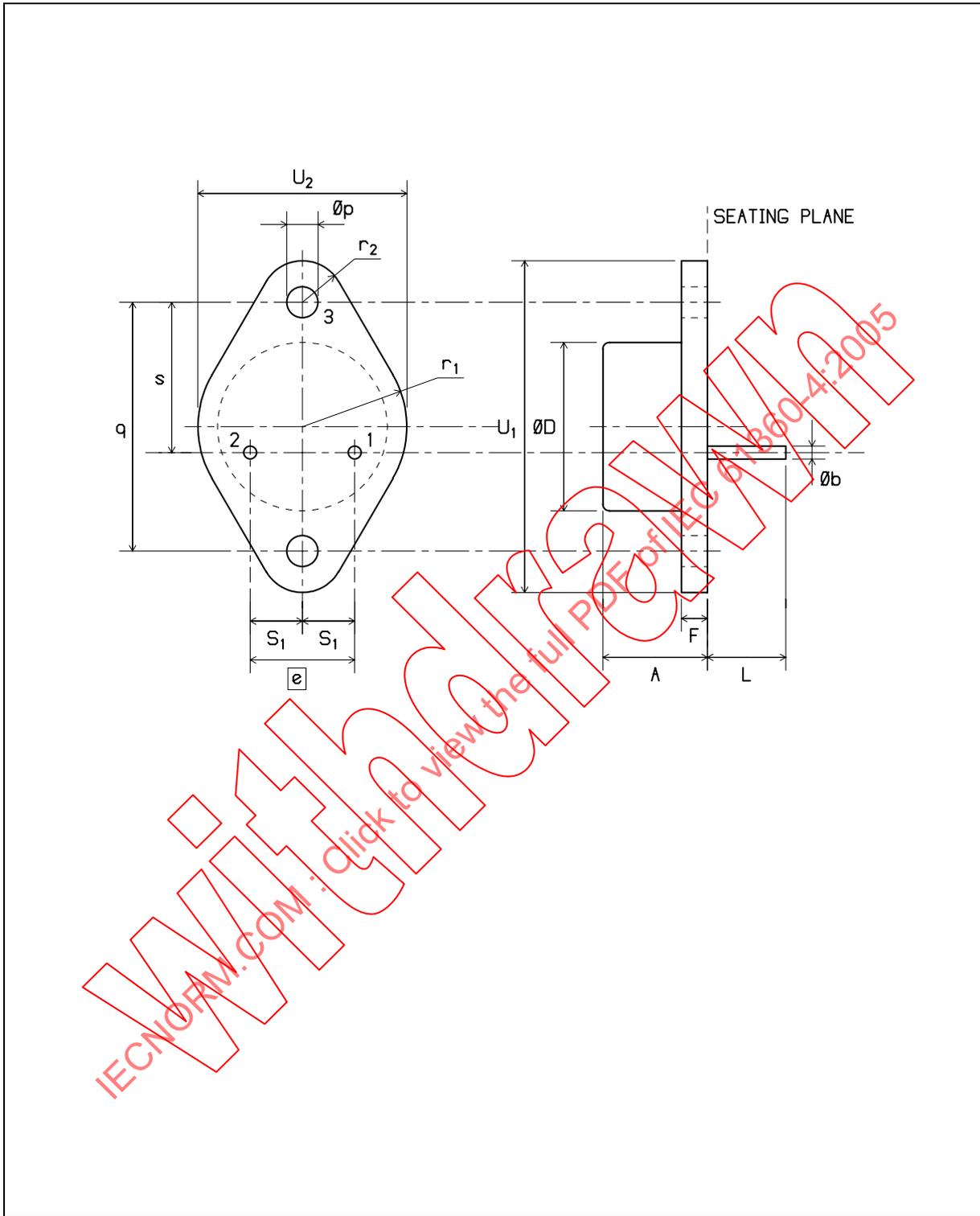
Oval flange-mount package, offset bottom pins	**DAA015** BFM-P-T007
First-angle projection	Version 001, revision 01
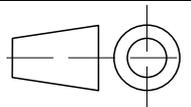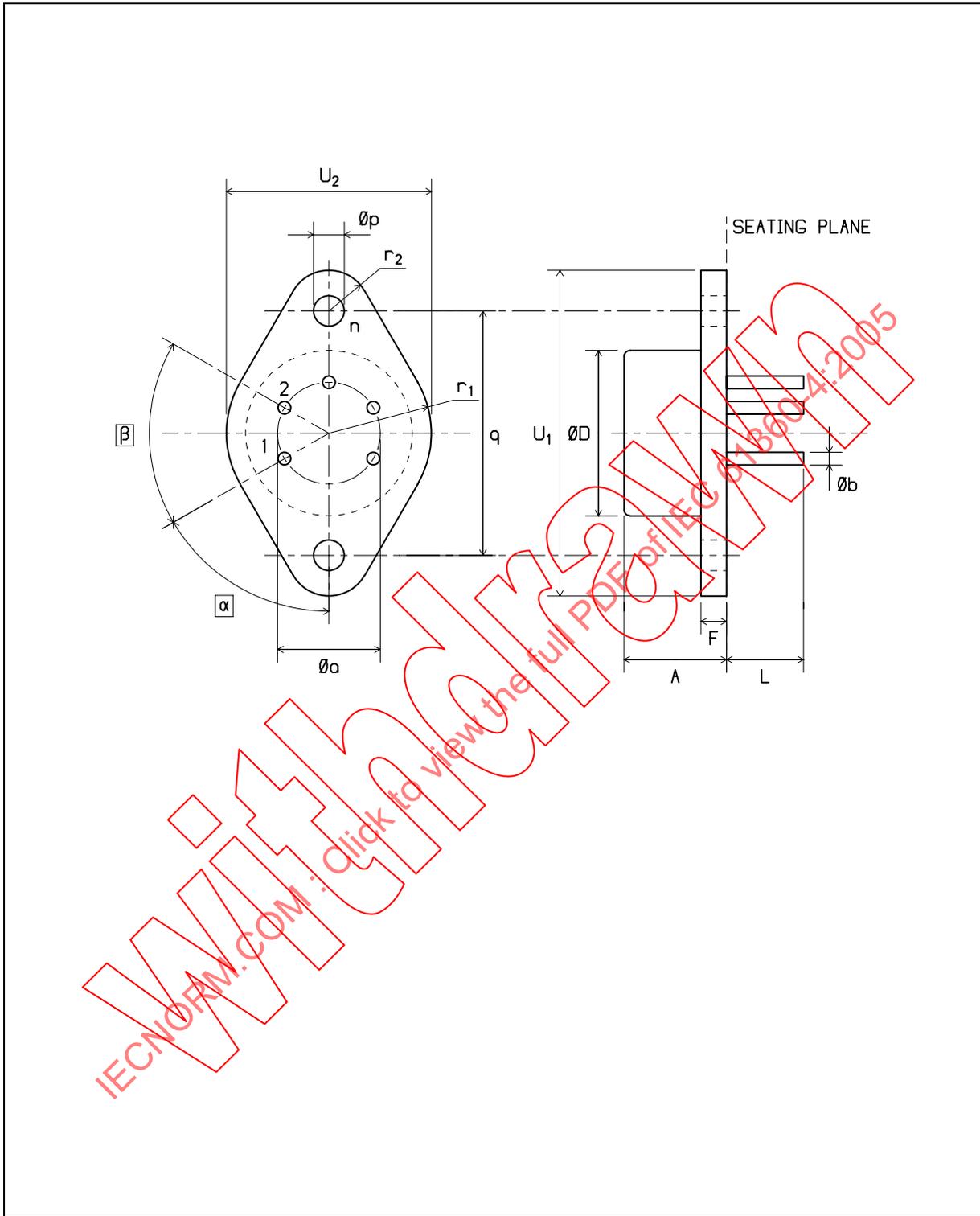
Oval flange-mount package, bottom pins on circle	**DAA016** BFM-P-T003
First-angle projection	Version 001, revision 01
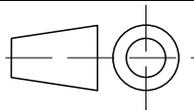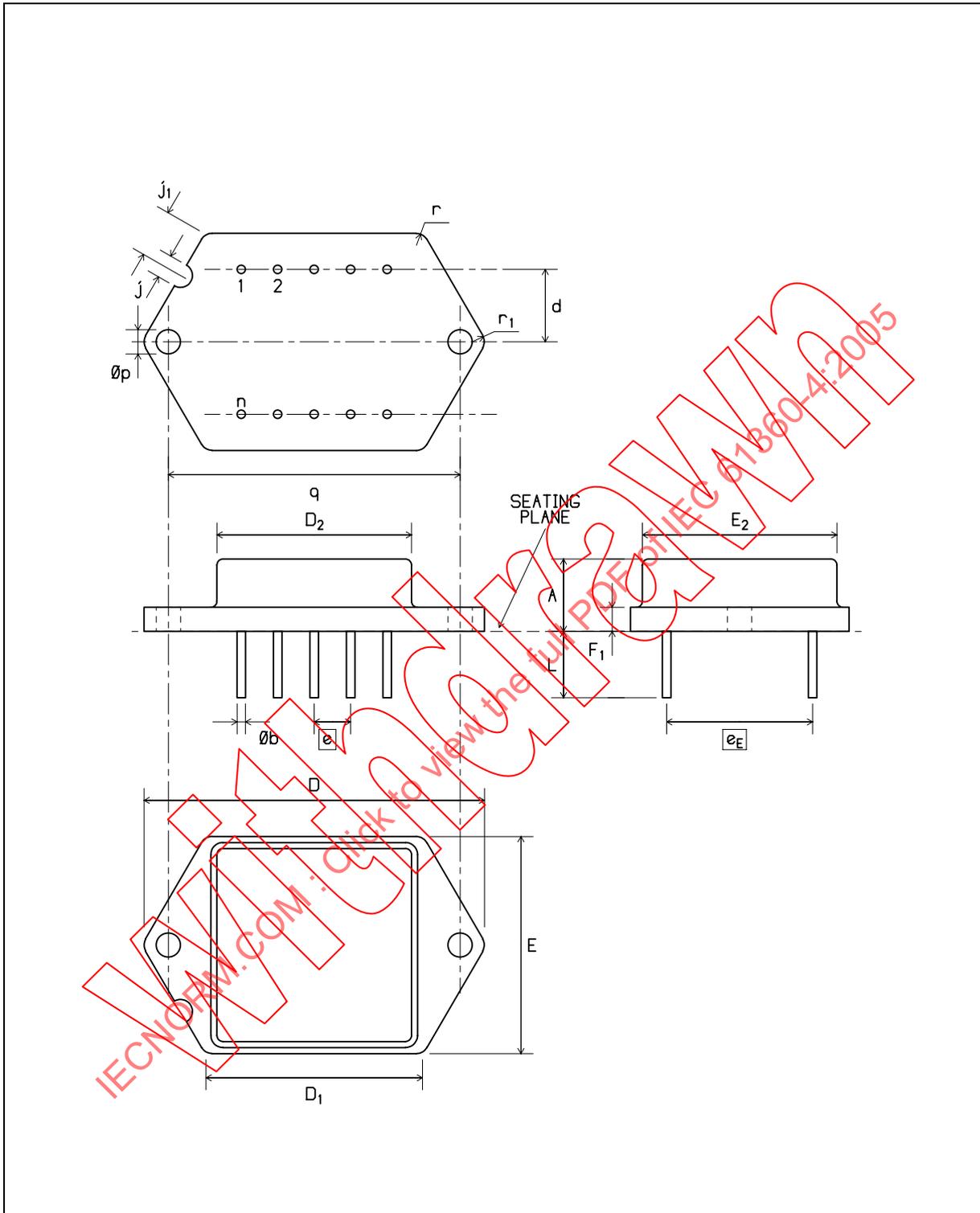
| Flange-mount package, dual-in-line pins | **DAA017**
 DFM-P-T009 |
| First-angle projection | Version 001, revision 01 |
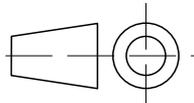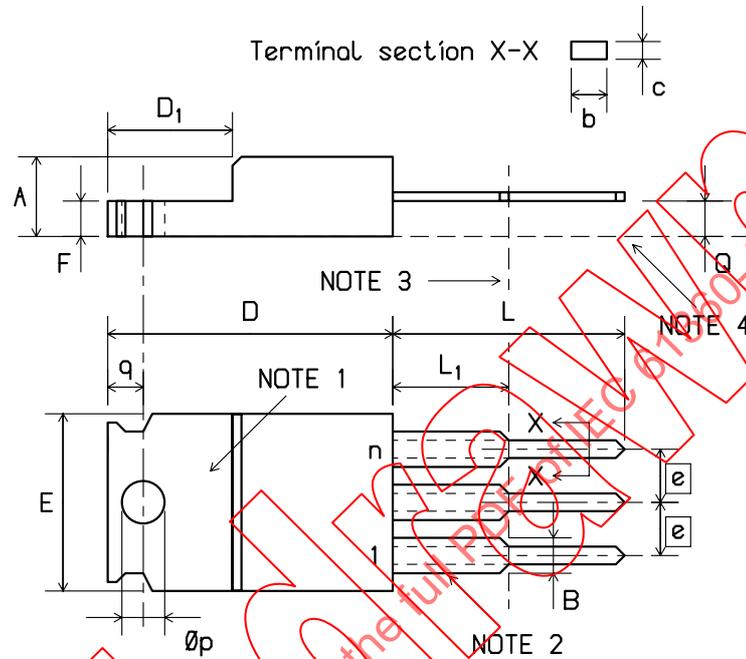
Terminal section X–X

NOTE 3 →

NOTE 4

NOTE 1

NOTE 2

NOTES
1. The tab shape may vary within the limits of E and D₁
2. Within L₁, the terminal shapes may follow the dotted lines
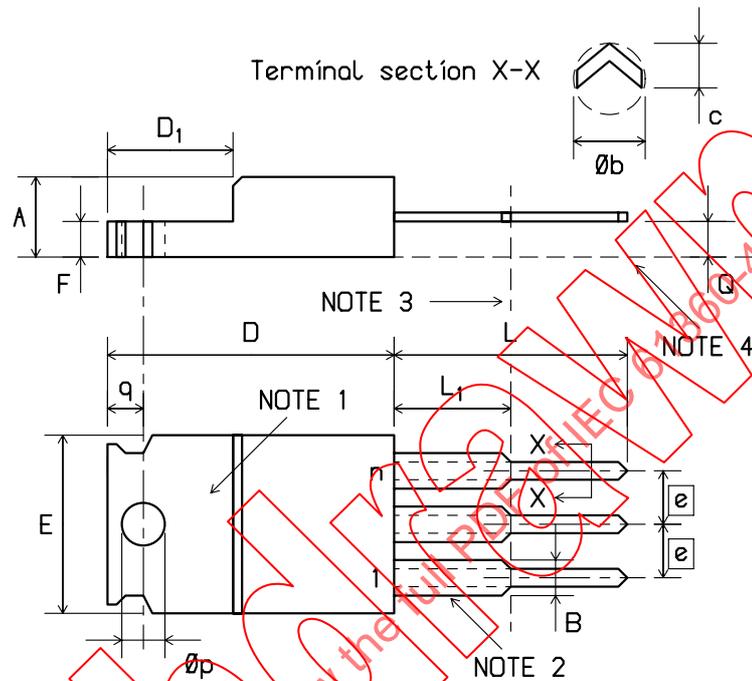3. Seating plane of terminals
4. Seating plane of heat sink

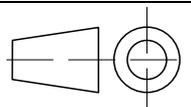| **Flange-mount package, single row, straight flat leads**	**DAA018** SFM-T-T011
First-angle projection	Version 001, revision 01
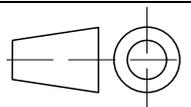
Terminal section X-X

NOTE 3

NOTE 4

NOTES
  1. The tab shape may vary within the limits of E and D₁
  2. Within L₁, the terminal shapes may follow the dotted lines
  3. Seating plane of terminals
  4. Seating plane of heat sink

Flange-mount package, single row, straight V-section leads	**DAA019** SFM-T-T023
First-angle projection	Version 001, revision 01