

NORME  
INTERNATIONALE  
INTERNATIONAL  
STANDARD

CEI  
IEC  
191-2

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1966

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K (1981), L (1982), M (1983),  
N (1987), P (1988)  
et/and Q (1990)

**Normalisation mécanique des dispositifs  
à semiconducteurs**

**Partie 2:  
Dimensions**

**Mechanical standardization of semiconductor  
devices**

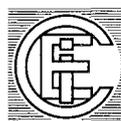
**Part 2:  
Dimensions**

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Commission Electrotechnique Internationale  
International Electrotechnical Commission  
Международная Электротехническая Комиссия

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# Withdrawn

## INSTRUCTIONS POUR L'INSERTION DES NOUVELLES PAGES DANS LA PUBLICATION 191-2

Remplacer la page de titre existante par la nouvelle page de titre.  
Retirer la page 191 IEC 1 existante contenant la préface et la remplacer par la nouvelle page 191 IEC 1 contenant la préface au quinzième complément.

Chapitre I :

1. Retirer la liste des dessins d'encombrement existante et la remplacer par les nouvelles pages.
2. Retirer la liste des types de dispositifs à semiconducteurs généralement montés dans les boîtiers du chapitre I de la Publication 191-2 de la CEI et la remplacer par la nouvelle liste.
3. Ajouter les nouvelles feuilles suivantes :  
191 IEC-1 : - 53-a/b/c  
- 063 A-a/b/c  
- 100 A-a/b/c  
- 100 B-a/b/c  
- 100 C-a/b  
- 075 E-a/b/c/d  
- 076 E-a/b/c/d/e  
- 102 E-a/b/c/d/e/f/g  
- 112 E-a/b/c/d/e/f/g/h/j/k/l/m/n  
- 119 E-a/b/c/d/e  
- 120 E-a/b/c/d  
- 100 F-a/b/c  
- 050 G-e  
- 100 G-a/b/c/d/e
4. Retirer la feuille rose donnant les compléments aux listes des codes nationaux figurant sur les feuilles de normes de la Publication 191-2 de la CEI et la remplacer par la nouvelle feuille rose.

## INSTRUCTIONS FOR THE INSERTION OF NEW PAGES IN PUBLICATION 191-2

Replace the existing title page with the new title page.  
Remove the existing page 191 IEC 1 containing the preface and insert in its place the new page 191 IEC 1 containing the preface to the fifteenth supplement.

Chapter I:

1. Remove the list of device outline drawings and insert in its place the new pages.
2. Remove the list of the types of semiconductor devices generally mounted in the packages of Chapter I of IEC Publication 191-2 and insert in its place the new list.
3. Add the following new sheets:  
191 IEC-1 : - 53-a/b/c  
- 063 A-a/b/c  
- 100 A-a/b/c  
- 100 B-a/b/c  
- 100 C-a/b  
- 075 E-a/b/c/d  
- 076 E-a/b/c/d/e  
- 102 E-a/b/c/d/e/f/g  
- 112 E-a/b/c/d/e/f/g/h/j/k/l/m/n  
- 119 E-a/b/c/d/e  
- 120 E-a/b/c/d  
- 100 F-a/b/c  
- 050 G-e  
- 100 G-a/b/c/d/e
4. Remove the pink sheet giving the additions to the lists of national codes appearing on the standard sheets of IEC Publication 191-2 and insert in its place the new pink sheet.

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# Withdrawn

COMMISSION ÉLECTROTECHNIQUE  
INTERNATIONALE

PUBLICATION 191-2

NORMALISATION MÉCANIQUE  
DES DISPOSITIFS À SEMICONDUCTEURS

DEUXIÈME PARTIE: DIMENSIONS

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LA CEI

INTERNATIONAL  
ELECTROTECHNICAL COMMISSION

PUBLICATION 191-2

MECHANICAL STANDARDIZATION  
OF SEMICONDUCTOR DEVICES

PART 2: DIMENSIONS

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## COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

## Quinzième complément à la Publication 191-2 (1966)

NORMALISATION MÉCANIQUE  
DES DISPOSITIFS À SEMICONDUCTEURS

## Deuxième partie : Dimensions

## PRÉAMBULE

- 1) Les décisions ou accords officiels de la CEI en ce qui concerne les questions techniques, préparés par des Comités d'Études où sont représentés tous les Comités nationaux s'intéressant à ces questions, expriment dans la plus grande mesure possible un accord international sur les sujets examinés.
- 2) Ces décisions constituent des recommandations internationales et sont agréées comme telles par les Comités nationaux.
- 3) Dans le but d'encourager l'unification internationale, la CEI exprime le vœu que tous les Comités nationaux adoptent dans leurs règles nationales le texte de la recommandation de la CEI, dans la mesure où les conditions nationales le permettent. Toute divergence entre la recommandation de la CEI et la règle nationale correspondante doit, dans la mesure du possible, être indiquée en termes clairs dans cette dernière.

## PRÉFACE AU QUINZIÈME COMPLÉMENT

La présente norme a été établie par le Comité d'Études n° 47 de la CEI : Dispositifs à semiconducteurs.

Elle constitue le quinzième complément à la Publication 191-2 de la CEI.

Le texte de cette norme est issu des documents suivants :

| Règle des Six Mois   | Rapports de vote   | Procédure des Deux Mois | Rapport de Vote |
|--|--|-------------------------|-----------------|
| 47(BC)1069<br>47(BC)1071<br>47(BC)1011<br>47(BC)1137<br>47(BC)1138<br>47(BC)1140<br>47(BC)1141<br>47(BC)1142<br>47(BC)1143<br>47(BC)1146<br>47(BC)1150<br>47(BC)1151<br>47(BC)1152 | 47(BC)1105<br>47(BC)1107<br>47(BC)1060<br>47(BC)1202<br>47(BC)1203<br>47(BC)1205<br>47(BC)1206<br>47(BC)1207<br>47(BC)1208<br>47(BC)1211<br>47(BC)1214<br>47(BC)1215<br>47(BC)1216 | 47(BC)1134              | 47(BC)1189      |

Les rapports de vote indiqués dans le tableau ci-dessus donnent toute information sur le vote ayant abouti à l'approbation de cette norme.

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## Fifteenth supplement to Publication 191-2 (1966)

MECHANICAL STANDARDIZATION  
OF SEMICONDUCTOR DEVICES

## Part 2: Dimensions

## FOREWORD

- 1) The formal decisions or agreements of the IEC on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
- 2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.
- 3) In order to promote international unification, the IEC expresses the wish that all National Committees should adopt the text of the IEC recommendation for their national rules in so far as national conditions will permit. Any divergence between the IEC recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.

## PREFACE TO THE FIFTEENTH SUPPLEMENT

This standard has been prepared by IEC Technical Committee No. 47: Semiconductor Devices.

It forms the fifteenth supplement to IEC Publication 191-2.

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

| Six Months' Rule | Reports on Voting | Two Months' Procedure | Report on Voting |
|------------------|-------------------|-----------------------|------------------|
| 47(CO)1069       | 47(CO)1105        | 47(CO)1134            | 47(CO)1189       |
| 47(CO)1071       | 47(CO)1107        |                       |                  |
| 47(CO)1011       | 47(CO)1060        |                       |                  |
| 47(CO)1137       | 47(CO)1202        |                       |                  |
| 47(CO)1138       | 47(CO)1203        |                       |                  |
| 47(CO)1140       | 47(CO)1205        |                       |                  |
| 47(CO)1141       | 47(CO)1206        |                       |                  |
| 47(CO)1142       | 47(CO)1207        |                       |                  |
| 47(CO)1143       | 47(CO)1208        |                       |                  |
| 47(CO)1146       | 47(CO)1211        |                       |                  |
| 47(CO)1150       | 47(CO)1214        |                       |                  |
| 47(CO)1151       | 47(CO)1215        |                       |                  |
| 47(CO)1152       | 47(CO)1216        |                       |                  |

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

## CHAPITRE 00 — CONCEPTION DE LA NORMALISATION MÉCANIQUE

### 1. Règles fondamentales

Lors de la réunion tenue à Montreux (juin 1981), le Comité d'Etudes n° 47 adopta les règles fondamentales suivantes qui remplacent celles adoptées à Copenhague en octobre 1962:

- A. Toute proposition nouvelle devra être soumise à l'étude préliminaire d'un groupe de travail convenablement qualifié (note 1) avant circulation dans un document Secrétariat.
- B. Le groupe de travail qualifié devra étudier les nouvelles propositions avec les objectifs suivants:
  1. Aboutir à une normalisation active en n'acceptant que les boîtiers qui sont soutenus internationalement.
  2. Spécifier de façon précise les dimensions en vue d'assurer l'interchangeabilité et de faciliter les manipulations automatiques.
  3. Reconsidérer continuellement les dessins existants et proposer la suppression de ceux qui ne sont plus soutenus.
- C. Il ne sera procédé à la discussion d'un dessin de boîtier que s'il a le soutien préalable d'au moins trois pays.
- D. Un dessin ne sera introduit dans la Publication 191-2 de la CEI que si au moins trois des pays qui le soutiennent ont fourni leur numéro de code national (ou exprimé un soutien formel s'ils ne possèdent pas de numéro de code).

*Notes 1.* — Lors de la réunion du Comité d'Etudes n° 47 à Orlando (février 1980), il a été admis d'étendre le domaine d'activité du GT7 de façon qu'il couvre aussi bien la normalisation mécanique des semiconducteurs discrets que celle des circuits intégrés.

Il a été également admis que, compte tenu de l'élargissement de son domaine d'activité, le GT7 serait le groupe de travail qualifié mentionné dans le paragraphe A.

En vue d'éviter que l'introduction du GT7 dans le processus suivi par le Comité d'Etudes n° 47 pour préparer des documents secrétariat sur la normalisation mécanique provoque des délais supplémentaires, le GT7 a été autorisé à obtenir de la part des trois pays concernés, ou plus, la confirmation directe du maintien de leur appui pour ces propositions.

2. — Lors de la réunion du Comité d'Etudes n° 47 à Montreux (juin 1981) il a été admis que les réunions du GT7 s'intégreraient dans les réunions du Comité d'Etudes n° 47.

Cependant, certaines propositions peuvent nécessiter un temps d'étude dépassant la durée d'une réunion du Comité d'Etudes n° 47 et en conséquence requérir une ou plusieurs réunions du GT7 entre deux réunions consécutives du Comité d'Etudes n° 47.

Lors de la réunion tenue à Moscou (juin 1977), le Comité d'Etudes n° 47 adopta la règle suivante:

Lorsqu'un dessin de la Publication 191-2 de la CEI vient à ne plus être soutenu que par un seul pays, il sera retiré de la publication principale et transféré dans une section séparée intitulée «Dessins obsolètes» avec l'indication de la date de transfert sur la feuille particulière correspondante.

Un avertissement, au début de la section dévolue aux dessins obsolètes, stipulera qu'à l'expiration d'une période de deux ans à compter de sa date de transfert, le dessin sera supprimé, sauf s'il est soutenu par un autre pays dans l'intervalle.

12. **Recommended values for maximum mounted width ( $M_E$  max.) of DIL and QUIL packages of integrated circuits**

- a) The following list of values is recommended for dimension  $M_E$  max. of DIL packages intended to be inserted in holes of diameter equal to  $0.80 \pm 0.05$  mm.

| Value of $e_1$ of the DIL package | Value of $M_E$ max. of the DIL package |
|-----------------------------------|--|
| 7.62 mm                           | 8.5 mm (7.62 + 0.85)                   |
| 10.16 mm                          | 11.1 mm (10.16 + 0.85)                 |
| 12.70 mm                          | 13.6 mm (12.70 + 0.85)                 |
| 15.24 mm                          | 16.1 mm (15.24 + 0.85)                 |

- b) The following list of values is recommended for dimension  $M_E$  max. of QUIL packages intended to be inserted in holes of diameter equal to  $1.00 \pm 0.05$  mm.

| Value of $e_2$ of the QUIL package | Value of $M_E$ max. of the QUIL package |
|------------------------------------|---|
| 10.16 mm                           | 11.3 mm (10.16 + 1.05)                  |
| 12.70 mm                           | 13.8 mm (12.70 + 1.05)                  |

13. **Spacing of terminals of integrated circuit packages of form E**

The recommended terminal pitch of integrated circuit packages of form E is 1.27 mm (0.050 in).

This refers to the true geometrical position of the terminal areas.

The use of a pitch of 1.25 mm (0.0492 in) as an alternative to 1.27 mm (0.050 in) is permitted provided the following conditions are observed:

- a) The number of terminal positions on any one side of the package of form E does not exceed 8.
- b) When the number of terminal positions on any one side of the package of form E does not exceed four, there is practically no problem of interchangeability as regards the terminal spacing, whether the pitch of the terminals of the package or that of the soldering pads of the mounting circuit is 1.27 mm (0.050 in) or 1.25 mm (0.0492 in).
- c) When the number of terminal positions on any one side of the package of form E ranges from 5 to 8, interchangeability as regards the terminal spacing will be ensured, whether the pitch of the terminals of the package or that of the soldering pads of the mounting circuit is 1.27 mm (0.050 in) or 1.25 mm (0.0492 in) provided that the minimum width of the soldering pads is at least 0.75 mm (0.030 in).

## CHAPITRE I — DESSINS D'ENCOMBREMENTS

## Liste des dessins

| Numéro de code CEI | Code du pays d'origine | Numéro de page et date |      |
|--------------------|------------------------|------------------------|------|
| A1A                | DO-7                   | I-1                    | 1971 |
| A1B                | SO-7                   | I-1                    | 1971 |
| A1C                | DO-14                  | I-1                    | 1971 |
| A2                 | DO-1, DO-2, DO-3       | I-2                    | 1980 |
| A3U                | DO-4                   | I-3                    | 1971 |
| A3M                | DO-4/F9                | I-3                    | 1971 |
| A4U                | DO-5                   | I-4                    | 1971 |
| A4M                | DO-5/F10               | I-4                    | 1971 |
| A6                 |                        | I-6                    | 1968 |
| A7U                | SO-31                  | I-7                    | 1965 |
| A7M                | 101A2                  | I-7                    | 1965 |
| A8-1/2             | DO-8                   | I-8a/b                 | 1968 |
| A9UA               | SO-29A                 | I-9a/b                 | 1976 |
| A9UB               | SC-80                  | I-9a/b                 | 1976 |
| A9UC               | SO-29C                 | I-9a/b                 | 1976 |
| A9MA               | SO-29B                 | I-9a/b                 | 1976 |
| A9MB               | 105A2                  | I-9a/b                 | 1976 |
| A10U1/2            | DO-9                   | I-10a/b                | 1968 |
| A10M1/2            | DO-9/F34               | I-10a/b                | 1968 |
| A11U               | TO-48                  | I-11a/b                | 1971 |
| A11M               | TO-48/F37              | I-11a/b                | 1971 |
| A12UA              | TO-49                  | I-12a/b                | 1976 |
| A12MA              | F38M                   | I-12a/b                | 1976 |
| A12MB              | 204A3                  | I-12a/b                | 1976 |
| A12MC              | SC-16                  | I-12a/b                | 1976 |
| A12MD              | NT12M                  | I-12a/b                | 1976 |
| A13U               | SO-35A                 | I-13a/b                | 1971 |
| A13M               | F72M                   | I-13a/b                | 1971 |
| A14U               | SO-28                  | I-14a/b                | 1967 |
| A14M               | SC-15                  | I-14a/b                | 1967 |
| A15MA              | KD5P1                  | I-15a/b                | 1976 |
| A15MB              | F50M                   | I-15a/b                | 1976 |
| A15MC              | 106B2                  | I-15a/b                | 1976 |
| A16U               | SO-32A                 | I-16a/b                | 1967 |
| A16M               | F37M                   | I-16a/b                | 1967 |
| A17MA1             | SO-32B                 | I-17a/b                | 1967 |
| A17MA2             | SO-32B                 | I-17a/b                | 1967 |
| A17MB1             | 103A2                  | I-17a/b                | 1967 |
| A17MB2             | 103A2                  | I-17a/b                | 1967 |
| A18                | SO-26                  | I-18                   | 1971 |
| A19                | DO-13                  | I-19                   | 1971 |
| A20                | SO-45                  | I-20                   | 1980 |
| A21MA              | KD8P1                  | I-21a/b                | 1976 |
| A21MB              | SC-30                  | I-21a/b                | 1976 |
| A22MA              | KD11P1                 | I-22a/b                | 1976 |
| A22MB              | 107A2                  | I-22a/b                | 1976 |
| A22MC              | SC-18A                 | I-22a/b                | 1976 |
| A22MD              | 107B2                  | I-22a/b                | 1976 |
| A23U               | SO-41                  | I-23a/b                | 1968 |
| A23M               | F58                    | I-23a/b                | 1968 |
| A24                | SO-84                  | I-24                   | 1980 |
| A25                |                        | dessin obsolète        |      |
| A26                | TO-50                  | I-26                   | 1970 |
| A27U               | SO-73                  | I-27a/b                | 1970 |
| A27MA              | 202A3                  | I-27a/b                | 1970 |
| A27MB              | 202B3                  | I-27a/b                | 1970 |
| A28U               | SC-19U                 | I-28a/b                | 1971 |
| A28MA              | SC-19                  | I-28a/b                | 1971 |
| A28MB              | KT8P1                  | I-28a/b                | 1971 |
| A29U               | SC-20U                 | I-29a/b                | 1971 |
| A29MA              | SC-20                  | I-29a/b                | 1971 |

## CHAPTER I — DEVICE OUTLINE DRAWINGS

## List of drawings

| IEC code number | Code of country of origin | Page number and date |      |
|-----------------|---------------------------|----------------------|------|
| A1A             | DO-7                      | I-1                  | 1971 |
| A1B             | SO-7                      | I-1                  | 1971 |
| A1C             | DO-14                     | I-1                  | 1971 |
| A2              | DO-1, DO-2, DO-3          | I-2                  | 1980 |
| A3U             | DO-4                      | I-3                  | 1971 |
| A3M             | DO-4/F9                   | I-3                  | 1971 |
| A4U             | DO-5                      | I-4                  | 1971 |
| A4M             | DO-5/F10                  | I-4                  | 1971 |
| A6              |                           | I-6                  | 1968 |
| A7U             | SO-31                     | I-7                  | 1965 |
| A7M             | 101A2                     | I-7                  | 1965 |
| A8-1/2          | DO-8                      | I-8a/b               | 1968 |
| A9UA            | SO-29A                    | I-9a/b               | 1976 |
| A9UB            | SC-80                     | I-9a/b               | 1976 |
| A9UC            | SO-29C                    | I-9a/b               | 1976 |
| A9MA            | SO-29B                    | I-9a/b               | 1976 |
| A9MB            | 105A2                     | I-9a/b               | 1976 |
| A10U1/2         | DO-9                      | I-10a/b              | 1968 |
| A10M1/2         | DO-9/F34                  | I-10a/b              | 1968 |
| A11U            | TO-48                     | I-11a/b              | 1971 |
| A11M            | TO-48/F37                 | I-11a/b              | 1971 |
| A12UA           | TO-49                     | I-12a/b              | 1976 |
| A12MA           | F38M                      | I-12a/b              | 1976 |
| A12MB           | 204A3                     | I-12a/b              | 1976 |
| A12MC           | SC-16                     | I-12a/b              | 1976 |
| A12MD           | NT12M                     | I-12a/b              | 1976 |
| A13U            | SO-35A                    | I-13a/b              | 1971 |
| A13M            | F72M                      | I-13a/b              | 1971 |
| A14U            | SO-28                     | I-14a/b              | 1967 |
| A14M            | SC-15                     | I-14a/b              | 1967 |
| A15MA           | KD5P1                     | I-15a/b              | 1976 |
| A15MB           | F50M                      | I-15a/b              | 1976 |
| A15MC           | 106B2                     | I-15a/b              | 1976 |
| A16U            | SO-32A                    | I-16a/b              | 1967 |
| A16M            | F37M                      | I-16a/b              | 1967 |
| A17MA1          | SO-32B                    | I-17a/b              | 1967 |
| A17MA2          | SO-32B                    | I-17a/b              | 1967 |
| A17MB1          | 103A2                     | I-17a/b              | 1967 |
| A17MB2          | 103A2                     | I-17a/b              | 1967 |
| A18             | SO-26                     | I-18                 | 1971 |
| A19             | DO-13                     | I-19                 | 1971 |
| A20             | SO-45                     | I-20                 | 1980 |
| A21MA           | KD8P1                     | I-21a/b              | 1976 |
| A21MB           | SC-30                     | I-21a/b              | 1976 |
| A22MA           | KD11P1                    | I-22a/b              | 1976 |
| A22MB           | 107A2                     | I-22a/b              | 1976 |
| A22MC           | SC-18A                    | I-22a/b              | 1976 |
| A22MD           | 107B2                     | I-22a/b              | 1976 |
| A23U            | SO-41                     | I-23a/b              | 1968 |
| A23M            | F58                       | I-23a/b              | 1968 |
| A24             | SO-84                     | I-24                 | 1980 |
| A25             |                           | obsolete drawing     |      |
| A26             | TO-50                     | I-26                 | 1970 |
| A27U            | SO-73                     | I-27a/b              | 1970 |
| A27MA           | 202A3                     | I-27a/b              | 1970 |
| A27MB           | 202B3                     | I-27a/b              | 1970 |
| A28U            | SC-19U                    | I-28a/b              | 1971 |
| A28MA           | SC-19                     | I-28a/b              | 1971 |
| A28MB           | KT8P1                     | I-28a/b              | 1971 |
| A29U            | SC-20U                    | I-29a/b              | 1971 |
| A29MA           | SC-20                     | I-29a/b              | 1971 |

## CHAPITRE I — DESSINS D'ENCOMBREMENTS

## Liste des dessins (suite)

| Numéro de code CEI | Code du pays d'origine | Numéro de page et date |      |
|--------------------|------------------------|------------------------|------|
| A29MB(3T)          | 207A4                  | I-29a/b                | 1971 |
| A29MB(2T)          | KT12P1                 | I-29a/b                | 1971 |
| A30U               | TO-59                  | I-30a/b                | 1970 |
| A30M               | TO-59/F91M             | I-30a/b                | 1970 |
| A31U               | TO-60                  | I-31a/b                | 1980 |
| A31M               | TO-60/F89M             | I-31a/b                | 1980 |
| A32                | SO-58                  | I-32                   | 1971 |
| A34U               | TO-109                 | I-34a/b                | 1971 |
| A34M               | SC-31                  | I-34a/b                | 1971 |
| A35MA              | SC-30                  | I-35a/b                | 1971 |
| A35MB              | BK2-100                | I-35a/b                | 1971 |
| A36                | NT-30                  | I-36                   | 1971 |
| A37MA              | SC-32A                 | I-37a/b                | 1971 |
| A37MB              | SC-32B                 | I-37a/b                | 1971 |
| A38MA              | SC-33A                 | I-38a/b                | 1976 |
| A38MB              | SC-33B                 | I-38a/b                | 1976 |
| A39MA              | 201A3                  | I-39a/b                | 1971 |
| A39MB              | 201B3                  | I-39a/b                | 1971 |
| A40                | 10B3                   | I-40                   | 1974 |
| A41                | KT13                   | I-41                   | 1980 |
| A42                | 50B3                   | I-42                   | 1974 |
| A43                | KT-14                  | I-43                   | 1980 |
| A44/45             | 34A3                   | I-44/45                | 1974 |
| A46                |                        | remplacé par 046E01    |      |
| A47MA              | KT5P1                  | I-47a/b                | 1974 |
| A47MB              | 205A4                  | I-47a/b                | 1974 |
| A47MC              | 205B4                  | I-47a/b                | 1974 |
| A48M               | KT-5, KT-7             | I-48a/b                | 1980 |
| A48U               | TO-63                  | I-48a/b                | 1980 |
| A49                | SO-99                  | I-49                   | 1974 |
| A50A               |                        | 050G03                 |      |
| A50B               |                        | 050G04                 |      |
| A50C               |                        | 050G08                 |      |
| A50D               | remplacés par          | 050G01                 |      |
| A50E               |                        | 050G09                 |      |
| A50F               |                        | 050G12                 |      |
| A50G               |                        | 050G11                 |      |
| A50H               |                        | 050G14                 |      |
| A51A               |                        | 051G01                 |      |
| A51B               |                        | 051G04                 |      |
| A51C               |                        | 051G07                 |      |
| A51D               |                        | 051G02                 |      |
| A51E               | remplacés par          | 051G05                 |      |
| A51F               |                        | 051G08                 |      |
| A51G               |                        | 051G11                 |      |
| A51H               |                        | 051G10                 |      |
| A51J               |                        | 051G14                 |      |
| A51K               |                        | 051G13                 |      |
| A52A               | SO-92A                 | I-52a/b                | 1976 |
| A52B               | SO-92B                 | I-52a/b                | 1976 |
| A52C               | SO-92C                 | I-52a/b                | 1976 |
| A52D               | SO-92D                 | I-52a/b                | 1976 |
| A53A               | SO-93A                 | I-53a/b                | 1976 |
| A53B               | SO-93B                 |                        |      |
| A53C               | SO-93C                 | remplacé par           |      |
| A53D               | SO-93D                 | I-53a/b/c              | 1990 |
| A53E               | SO-93E                 | I-53a/b/c              | 1990 |
| A54                | SO-103                 | I-54                   | 1976 |
| A55                | SO-110                 | I-55                   | 1976 |
| A56                | 12A3                   | I-56                   | 1976 |
| A57                | 13A3                   | I-57                   | 1976 |

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| IEC code number | Code of country of origin | Page number and date |      |
|-----------------|---------------------------|----------------------|------|
| A29MB(3T)       | 207A4                     | I-29a/b              | 1971 |
| A29MB(2T)       | KT12P1                    | I-29a/b              | 1971 |
| A30U            | TO-59                     | I-30a/b              | 1970 |
| A30M            | TO-59/F91M                | I-30a/b              | 1970 |
| A31U            | TO-60                     | I-31a/b              | 1980 |
| A31M            | TO-60/F89M                | I-31a/b              | 1980 |
| A32             | SO-58                     | I-32                 | 1971 |
| A34U            | TO-109                    | I-34a/b              | 1971 |
| A34M            | SC-31                     | I-34a/b              | 1971 |
| A35MA           | SC-30                     | I-35a/b              | 1971 |
| A35MB           | BK2-100                   | I-35a/b              | 1971 |
| A36             | NT-30                     | I-36                 | 1971 |
| A37MA           | SC-32A                    | I-37a/b              | 1971 |
| A37MB           | SC-32B                    | I-37a/b              | 1971 |
| A38MA           | SC-33A                    | I-38a/b              | 1976 |
| A38MB           | SC-33B                    | I-38a/b              | 1976 |
| A39MA           | 201A3                     | I-39a/b              | 1971 |
| A39MB           | 201B3                     | I-39a/b              | 1971 |
| A40             | 10B3                      | I-40                 | 1974 |
| A41             | KT13                      | I-41                 | 1980 |
| A42             | 50B3                      | I-42                 | 1974 |
| A43             | KT-14                     | I-43                 | 1980 |
| A44/45          | 34A3                      | I-44/45              | 1974 |
| A46             |                           | superseded by 046E01 |      |
| A47MA           | KT5P1                     | I-47a/b              | 1974 |
| A47MB           | 205A4                     | I-47a/b              | 1974 |
| A47MC           | 205B4                     | I-47a/b              | 1974 |
| A48M            | KT-5, KT-7                | I-48a/b              | 1980 |
| A48U            | TO-63                     | I-48a/b              | 1980 |
| A49             | SO-99                     | I-49                 | 1974 |
| A50A            |                           | 050G03               |      |
| A50B            |                           | 050G04               |      |
| A50C            |                           | 050G08               |      |
| A50D            | superseded by             | 050G01               |      |
| A50E            |                           | 050G09               |      |
| A50F            |                           | 050G12               |      |
| A50G            |                           | 050G11               |      |
| A50H            |                           | 050G14               |      |
| A51A            |                           | 051G01               |      |
| A51B            |                           | 051G04               |      |
| A51C            |                           | 051G07               |      |
| A51D            |                           | 051G02               |      |
| A51E            | superseded by             | 051G05               |      |
| A51F            |                           | 051G08               |      |
| A51G            |                           | 051G11               |      |
| A51H            |                           | 051G10               |      |
| A51J            |                           | 051G14               |      |
| A51K            |                           | 051G13               |      |
| A52A            | SO-92A                    | I-52a/b              | 1976 |
| A52B            | SO-92B                    | I-52a/b              | 1976 |
| A52C            | SO-92C                    | I-52a/b              | 1976 |
| A52D            | SO-92D                    | I-52a/b              | 1976 |
| A53A            | SO-93A                    | I-53a/b              | 1976 |
| A53B            | SO-93B                    |                      |      |
| A53C            | SO-93C                    | superseded by        |      |
| A53D            | SO-93D                    | I-53a/b/c            | 1990 |
| A53E            | SO-93E                    | I-53a/b/c            | 1990 |
| A54             | SO-103                    | I-54                 | 1976 |
| A55             | SO-110                    | I-55                 | 1976 |
| A56             | 12A3                      | I-56                 | 1976 |
| A57             | 13A3                      | I-57                 | 1976 |

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| Numéro de code CEI | Code du pays d'origine | Numéro de page et date |      |
|--------------------|------------------------|------------------------|------|
| A58                | SO-131                 | I-58                   | 1976 |
| A59A               | KTP-8                  | I-59a/b                | 1977 |
| A59B               | F148B                  | I-59a/b                | 1977 |
| A59C               | SC-50                  | I-59a/b                | 1977 |
| A60A               |                        | remplacé par 060G07    |      |
| A60B               | } remplacés par        | 060G06                 |      |
| A60C               |                        | 060G09                 |      |
| A60D               |                        | 060G02                 |      |
| A60E               |                        | 060G01                 |      |
| A60F               |                        | 060G04                 |      |
| A60G               |                        | 060G03                 |      |
| A60H               |                        | 060G11                 |      |
| A61A               | SO-142A                | I-61a/b                | 1982 |
| A61B               | SO-142B                | I-61a/b                | 1982 |
| A62A               | SO-144A                | I-62a/b                | 1980 |
| A62B               | SO-144B                | I-62a/b                | 1980 |
| A62C               | KD-30                  | I-62a/b                | 1980 |
| A62D               | SO-144C                | I-62a/b                | 1980 |
| A62E               | SO-144D                | I-62a/b                | 1980 |
| A62F               | KD-31                  | I-62a/b                | 1980 |
| A63A               | } remplacés par 063A01 |                        |      |
| A63B               |                        |                        |      |
| A63C               |                        |                        |      |
| A63D               |                        |                        |      |
| A63E               |                        |                        |      |
| A63F               |                        |                        |      |
| A64                | F166                   | I-64a/b                | 1980 |
| A65                | FA166                  | I-65a/b                | 1980 |
| A66MA              |                        | I-66a/b                | 1980 |
| A66MB              | KT-16                  | I-66a/b                | 1980 |
| A66MC              |                        | I-66a/b                | 1980 |
| A66MD              |                        | I-66a/b                | 1980 |
| A66UA              | F147UA                 | I-66a/b                | 1980 |
| A66UB              | F147UB                 | I-66a/b                | 1980 |
| A66UC              | F147UC                 | I-66a/b                | 1980 |
| A66UD              | F147UD                 | I-66a/b                | 1980 |
| A67                | F170                   | I-67                   | 1981 |
| A68                | F129B                  | I-68                   | 1981 |
| A69                | KD-1                   | I-69                   | 1981 |
| A70                | SO-182                 | I-70                   | 1982 |
| A71                | SO-78                  | I-71                   | 1982 |
| A72A               | KT-18                  | I-72                   | 1982 |
| A72B               | SO-163                 | I-72                   | 1982 |
| A73A               | F138A                  | I-73                   | 1982 |
| A73B               | F138B                  | I-73                   | 1982 |
| A74A               | F138C                  | I-74                   | 1982 |
| A74B               | F138D                  | I-74                   | 1982 |
| A75A               | } remplacés par        | 075E03                 |      |
| A75B               |                        | 075E04                 |      |
| A75C               |                        | 075E05                 |      |
| A75D               |                        | 075E06                 |      |
| A75E               |                        | 075E01                 |      |
| A75F               | 075E02                 |                        |      |
| A76A1              | } remplacés par        | 076E01L                |      |
| A76A2              |                        | 076E01S                |      |
| A76B1              |                        | 076E02L                |      |
| A76B2              |                        | 076E02S                |      |
| A76C1              |                        | 076E03L                |      |
| A76C2              |                        | 076E03S                |      |
| A76D1              |                        | 076E04L                |      |
| A76D2              | 076E04S                |                        |      |

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## List of drawings (continued)

| IEC code number | Code of country of origin | Page number and date |      |
|-----------------|---------------------------|----------------------|------|
| A58             | SO-131                    | I-58                 | 1976 |
| A59A            | KTP-8                     | I-59a/b              | 1977 |
| A59B            | F148B                     | I-59a/b              | 1977 |
| A59C            | SC-50                     | I-59a/b              | 1977 |
| A60A            |                           | superseded by 060G07 |      |
| A60B            | } superseded by           | 060G06               |      |
| A60C            |                           | 060G09               |      |
| A60D            |                           | 060G02               |      |
| A60E            |                           | 060G01               |      |
| A60F            |                           | 060G04               |      |
| A60G            |                           | 060G03               |      |
| A60H            |                           | 060G11               |      |
| A61A            | SO-142A                   | I-61a/b              | 1982 |
| A61B            | SO-142B                   | I-61a/b              | 1982 |
| A62A            | SO-144A                   | I-62a/b              | 1980 |
| A62B            | SO-144B                   | I-62a/b              | 1980 |
| A62C            | KD-30                     | I-62a/b              | 1980 |
| A62D            | SO-144C                   | I-62a/b              | 1980 |
| A62E            | SO-144D                   | I-62a/b              | 1980 |
| A62F            | KD-31                     | I-62a/b              | 1980 |
| A63A            | } superseded by 063A01    |                      |      |
| A63B            |                           |                      |      |
| A63C            |                           |                      |      |
| A63D            |                           |                      |      |
| A63E            |                           |                      |      |
| A63F            |                           |                      |      |
| A64             | F166                      | I-64a/b              | 1980 |
| A65             | FA166                     | I-65a/b              | 1980 |
| A66MA           |                           | I-66a/b              | 1980 |
| A66MB           | KT-16                     | I-66a/b              | 1980 |
| A66MC           |                           | I-66a/b              | 1980 |
| A66MD           |                           | I-66a/b              | 1980 |
| A66UA           | F147UA                    | I-66a/b              | 1980 |
| A66UB           | F147UB                    | I-66a/b              | 1980 |
| A66UC           | F147UC                    | I-66a/b              | 1980 |
| A66UD           | F147UD                    | I-66a/b              | 1980 |
| A67             | F170                      | I-67                 | 1981 |
| A68             | F129B                     | I-68                 | 1981 |
| A69             | KD-1                      | I-69                 | 1981 |
| A70             | SO-182                    | I-70                 | 1982 |
| A71             | SO-78                     | I-71                 | 1982 |
| A72A            | KT-18                     | I-72                 | 1982 |
| A72B            | SO-163                    | I-72                 | 1982 |
| A73A            | F138A                     | I-73                 | 1982 |
| A73B            | F138B                     | I-73                 | 1982 |
| A74A            | F138C                     | I-74                 | 1982 |
| A74B            | F138D                     | I-74                 | 1982 |
| A75A            | } superseded by           | 075E03               |      |
| A75B            |                           | 075E04               |      |
| A75C            |                           | 075E05               |      |
| A75D            |                           | 075E06               |      |
| A75E            |                           | 075E01               |      |
| A75F            | 075E02                    |                      |      |
| A76A1           | } superseded by           | 076E01L              |      |
| A76A2           |                           | 076E01S              |      |
| A76B1           |                           | 076E02L              |      |
| A76B2           |                           | 076E02S              |      |
| A76C1           |                           | 076E03L              |      |
| A76C2           |                           | 076E03S              |      |
| A76D1           |                           | 076E04L              |      |
| A76D2           | 076E04S                   |                      |      |

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| Número de code CEI   | Code du pays d'origine   | Número de page et date |        |      |
|--|--|------------------------|--------|------|
| A76E1 }<br>A76E2 }<br>A76F1 }<br>A76F2 }<br>A76G1 }<br>A76G2 } | remplacés par<br>{<br>076E05S<br>076E05L<br>076E06S<br>076E06L<br>076E07S<br>076E07L |                        |        |      |
| A77  |  | remplacé par 077B      |        |      |
| Forme A  |  |                        |        |      |
| 063A01   |  | 18H3                   | I-063A | 1990 |
| 100A01   |  | 18J3                   | I-100A | 1990 |
| 100A02   |  | 18K3                   |        |      |
| 101A00   | NT148  | I-101a/b               | 1985   |      |
| Forme B  |  |                        |        |      |
| 077B01   | A77A   | I-77B                  | 1988   |      |
| 077B02   | TO-240   |                        |        |      |
| 077B03   | A77C   |                        |        |      |
| 077B04   | SO-189D  |                        |        |      |
| 077B05   | A77E   |                        |        |      |
| 077B06   | SO-189F  |                        |        |      |
| 100B   | (Allemagne)  | I-100B                 | 1990   |      |
| 101B01   | SO-191   |                        | 1988   |      |
| 102B01   | 102B01   | I-102B                 | 1988   |      |
| 102B02   | 102B02   |                        |        |      |
| 102B03   | 102B03   |                        |        |      |
| 102B04   | 102B04   |                        |        |      |
| 103B01   | 150A2  | I-103B                 | 1988   |      |
| 103B02   | 151A2  |                        |        |      |
| 103B03   | 152A2  |                        |        |      |
| 103B04   | 153A2  |                        |        |      |
| 103B05   | 153C2  |                        |        |      |
| 103B06   | 154A2  |                        |        |      |
| 103B07   | 154B2  |                        |        |      |
| 103B08   | 155B2  |                        |        |      |
| 103B09   | 103B09   |                        |        |      |
| 103B10   | 156B2  |                        |        |      |
| 103B11   | 103B11   |                        |        |      |
| 103B12   | 157B2  |                        |        |      |
| 103B13   | 103B13   |                        |        |      |
| 103B14   | 158B2  |                        |        |      |
| 104B01   | 150A4  | I-104B                 | 1988   |      |
| 104B02   | 151A4  |                        |        |      |
| 104B03   | 152A4  |                        |        |      |
| 104B04   | 153A4  |                        |        |      |
| 104B05   | 153C4  |                        |        |      |
| 104B06   | 154A4  |                        |        |      |
| 104B07   | 154B4  |                        |        |      |
| 104B08   | 155B4  |                        |        |      |
| 104B09   | 104B09   |                        |        |      |
| 104B10   | 156B4  |                        |        |      |
| 104B11   | 104B11   |                        |        |      |
| 104B12   | 157B4  |                        |        |      |
| 104B13   | 104B13   |                        |        |      |
| 104B14   | 158B4  |                        |        |      |
| 105B01   | 105B01   | I-105B                 | 1988   |      |
| 105B02   | 105B02   |                        |        |      |
| 105B03   | 105B03   |                        |        |      |
| 105B04   | 105B04   |                        |        |      |
| 105B05   | 105B05   |                        |        |      |
| 105B06   | 105B06   |                        |        |      |

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| IEC code number  | Code of country of origin  | Page number and date |        |      |
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| A76E1 }<br>A76E2 }<br>A76F1 }<br>A76F2 }<br>A76G1 }<br>A76G2 } | superseded by<br>{<br>076E05S<br>076E05L<br>076E06S<br>076E06L<br>076E07S<br>076E07L |                      |        |      |
| A77  |  | superseded by 077B   |        |      |
| Form A   |  |                      |        |      |
| 063A01   |  | 18H3                 | I-063A | 1990 |
| 100A01   |  | 18J3                 | I-100A | 1990 |
| 100A02   |  | 18K3                 |        |      |
| 101A00   | NT148  | I-101a/b             | 1985   |      |
| Form B   |  |                      |        |      |
| 077B01   | A77A   | I-77B                | 1988   |      |
| 077B02   | TO-240   |                      |        |      |
| 077B03   | A77C   |                      |        |      |
| 077B04   | SO-189D  |                      |        |      |
| 077B05   | A77E   |                      |        |      |
| 077B06   | SO-189F  |                      |        |      |
| 100B   | (Germany)  | I-100B               | 1990   |      |
| 101B01   | SO-191   |                      | 1988   |      |
| 102B01   | 102B01   | I-102B               | 1988   |      |
| 102B02   | 102B02   |                      |        |      |
| 102B03   | 102B03   |                      |        |      |
| 102B04   | 102B04   |                      |        |      |
| 103B01   | 150A2  | I-103B               | 1988   |      |
| 103B02   | 151A2  |                      |        |      |
| 103B03   | 152A2  |                      |        |      |
| 103B04   | 153A2  |                      |        |      |
| 103B05   | 153C2  |                      |        |      |
| 103B06   | 154A2  |                      |        |      |
| 103B07   | 154B2  |                      |        |      |
| 103B08   | 155B2  |                      |        |      |
| 103B09   | 103B09   |                      |        |      |
| 103B10   | 156B2  |                      |        |      |
| 103B11   | 103B11   |                      |        |      |
| 103B12   | 157B2  |                      |        |      |
| 103B13   | 103B13   |                      |        |      |
| 103B14   | 158B2  |                      |        |      |
| 104B01   | 150A4  | I-104B               | 1988   |      |
| 104B02   | 151A4  |                      |        |      |
| 104B03   | 152A4  |                      |        |      |
| 104B04   | 153A4  |                      |        |      |
| 104B05   | 153C4  |                      |        |      |
| 104B06   | 154A4  |                      |        |      |
| 104B07   | 154B4  |                      |        |      |
| 104B08   | 155B4  |                      |        |      |
| 104B09   | 104B09   |                      |        |      |
| 104B10   | 156B4  |                      |        |      |
| 104B11   | 104B11   |                      |        |      |
| 104B12   | 157B4  |                      |        |      |
| 104B13   | 104B13   |                      |        |      |
| 104B14   | 158B4  |                      |        |      |
| 105B01   | 105B01   | I-105B               | 1988   |      |
| 105B02   | 105B02   |                      |        |      |
| 105B03   | 105B03   |                      |        |      |
| 105B04   | 105B04   |                      |        |      |
| 105B05   | 105B05   |                      |        |      |
| 105B06   | 105B06   |                      |        |      |

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|--|--|------------------------|-----------------------------|--|---|--------------------|---------------|--|---------------|--|---------------|
| 105B07   | 105B07   | } I-105B 1988          | 105B07                      | 105B07   | } I-105B 1988   |                    |               |  |               |  |               |
| 105B08   | 105B08   |                        | 105B08                      | 105B08   |   |                    |               |  |               |  |               |
| 105B09   | 105B09   |                        | 105B09                      | 105B09   |   |                    |               |  |               |  |               |
| 106B01   | 106B01   | } I-106B 1988          | 106B01                      | 106B01   | } I-106B 1988   |                    |               |  |               |  |               |
| 106B02   | SC-68  |                        | 106B02                      | SC-68  |   |                    |               |  |               |  |               |
| 107B01   | 107B01   | } I-107B 1988          | 107B01                      | 107B01   | } I-107B 1988   |                    |               |  |               |  |               |
| 107B02   | SC-69  |                        | 107B02                      | SC-69  |   |                    |               |  |               |  |               |
| Forme C<br>100C01<br>100C02  | KD10   | } I-100C 1990          | Forme C<br>100C01<br>100C02 | KD10   | } I-100C 1990   |                    |               |  |               |  |               |
| Forme E<br>046E01A<br>046E01B  | NT23/3A<br>NT23/3B   |                        | } I-46E1 1988               | Forme E<br>046E01A<br>046E01B  |   | NT23/3A<br>NT23/3B | } I-46E1 1988 |  |               |  |               |
| 046E02A<br>046E02B   | NT143A<br>NT143B   | } I-46E2 1988          |                             | 046E02A<br>046E02B   | NT143A<br>NT143B  | } I-46E2 1988      |               |  |               |  |               |
| 075E01<br>075E02<br>075E03<br>075E04<br>075E05<br>075E06   | SO192E<br>SO192F<br>NT162<br>NT163<br>NT137<br>NT136   |                        | } I-075E 1990               | 075E01<br>075E02<br>075E03<br>075E04<br>075E05<br>075E06   | SO192E<br>SO192F<br>NT162<br>NT163<br>NT137<br>NT136  |                    | } I-075E 1990 |  |               |  |               |
| 076E01S<br>076E01L<br>076E02S<br>076E02L<br>076E03S<br>076E03L<br>076E04S<br>076E04L<br>076E05S<br>076E05L<br>076E06S<br>076E06L<br>076E07S<br>076E07L | F174A<br>F174<br>F175A<br>F175<br>F176A<br>F176<br>F177A<br>F177<br>F178A<br>F178<br>F179A<br>F179<br>F180A<br>F180                            | } I-076E 1990          |                             | 076E01S<br>076E01L<br>076E02S<br>076E02L<br>076E03S<br>076E03L<br>076E04S<br>076E04L<br>076E05S<br>076E05L<br>076E06S<br>076E06L<br>076E07S<br>076E07L | F174A<br>F174<br>F175A<br>F175<br>F176A<br>F176<br>F177A<br>F177<br>F178A<br>F178<br>F179A<br>F179<br>F180A<br>F180 | } I-076E 1990      |               |  |               |  |               |
| 102E02<br>102E03<br>102E04<br>102E05<br>102E06<br>102E07   | MS004-CB<br>MS004-CC<br>MS004-CD<br>MS004-CE<br>MS004-CF<br>MS004-CG   |                        |                             | } I-102E 1990  | 102E02<br>102E03<br>102E04<br>102E05<br>102E06<br>102E07  |                    |               | MS004-CB<br>MS004-CC<br>MS004-CD<br>MS004-CE<br>MS004-CF<br>MS004-CG   | } I-102E 1990 |  |               |
| 112E01<br>112E02<br>112E03<br>112E04<br>112E05<br>112E06<br>112E07<br>112E08<br>112E09<br>112E10<br>112E11<br>112E12<br>112E13<br>112E14<br>112E15     | B1A<br>(Allemagne)<br>B1C<br>SO195A<br>B1D<br>(Allemagne)<br>B1E<br>SO195B<br>B1G<br>NT187<br>SO195D<br>NT188<br>NT189<br>MO-047AG<br>MO-047AH |                        |                             |  | } I-112B 1990   |                    |               | 112E01<br>112E02<br>112E03<br>112E04<br>112E05<br>112E06<br>112E07<br>112E08<br>112E09<br>112E10<br>112E11<br>112E12<br>112E13<br>112E14<br>112E15 |               | B1A<br>(Germany)<br>B1C<br>SO195A<br>B1D<br>(Germany)<br>B1E<br>SO195B<br>B1G<br>NT187<br>SO195D<br>NT188<br>NT189<br>MO-047AG<br>MO-047AH | } I-112B 1990 |

## CHAPITRE I — DESSINS D'ENCOMBREMENTS

## Liste des dessins (suite)

| Numéro de code CEI | Code du pays d'origine | Numéro de page et date |      |
|--------------------|------------------------|------------------------|------|
| 114E01             | NT89                   | I-114E                 | 1988 |
| 115E01             | SC-527-8AA             | I-115E                 | 1988 |
| 115E02             | SC-528-10AA            |                        |      |
| 115E03             | SC-529-14AA            |                        |      |
| 115E04             | SC-530-16AA            |                        |      |
| 116E01             | SC-529-14BA            | I-116E                 | 1988 |
| 116E02             | SC-530-16CA            |                        |      |
| 166E03             | SC-531-20AA            |                        |      |
| 117E01             | SC-530-16BA            | I-117E                 | 1988 |
| 117E02             | SC-531-20BA            |                        |      |
| 117E03             | SC-532-24AA            |                        |      |
| 117E04             | SC-533-28AA            |                        |      |
| 117E05             | SC-533-28BA            |                        |      |
| 118E01             | SC-532-24BA            | I-118E                 | 1988 |
| 118E02             | SC-533-28CA            |                        |      |
| 119E02             | (Etats-Unis)           | I-119E                 | 1990 |
| 119E03             |                        |                        |      |
| 120E               | NT194                  | I-120E                 | 1990 |
| Forme F<br>100F    |                        | I-100F                 | 1990 |
| 101F01             | 101F01                 | I-101F                 | 1988 |
| 101F02             | 101F02                 |                        |      |
| Forme G<br>050G01  | SO-87D                 | I-50a/b/c/d            | 1985 |
| 050G02             | SO-188D                |                        |      |
| 050G03             | SO-87A                 |                        |      |
| 050G04             | SO-87B                 |                        |      |
| 050G05             | SO-188A                |                        |      |
| 050G06             | SO-188B                |                        |      |
| 050G07             | SO-188F                |                        |      |
| 050G08             | SO-87C                 |                        |      |
| 050G09             | SO-87E                 |                        |      |
| 050G10             | SO-188C                |                        |      |
| 050G11             | SC505-18A              |                        |      |
| 050G12             | SO-87G                 |                        |      |
| 050G13             | SO-188E                |                        |      |
| 050G14             | (Suède)                |                        |      |
| 050G16             | A1AA                   | I-50e                  | 1990 |
| 050G17             | A1AB                   |                        |      |
| 050G18             | A1BA                   |                        |      |
| 050G19             | A1BB                   |                        |      |
| 050G20             | A1CB                   |                        |      |
| 051G01             | SO-119A                | I-51a/b/c/d            | 1985 |
| 051G02             | SO-119D                |                        |      |
| 051G03             | SC509-24E              |                        |      |
| 051G04             | SO-119B                |                        |      |
| 051G05             | SO-119E                |                        |      |
| 051G06             | SC510-28E              |                        |      |
| 051G07             | SO-119C                |                        |      |
| 051G08             | SO-119F                |                        |      |
| 051G09             | SC511-40E              |                        |      |
| 051G10             | SC512-42A/B            |                        |      |
| 051G11             | SC512-42C/D            |                        |      |
| 051G12             | SC512-42E              |                        |      |
| 051G13             | F199A                  |                        |      |
| 051G14             | F199                   |                        |      |

## CHAPTER I — DEVICE OUTLINE DRAWINGS

## List of drawings (continued)

| IEC code number   | Code of country of origin | Page number and date |      |
|-------------------|---------------------------|----------------------|------|
| 114E01            | NT89                      | I-114E               | 1988 |
| 115E01            | SC-527-8AA                | I-115E               | 1988 |
| 115E02            | SC-528-10AA               |                      |      |
| 115E03            | SC-529-14AA               |                      |      |
| 115E04            | SC-530-16AA               |                      |      |
| 116E01            | SC-529-14BA               | I-116E               | 1988 |
| 116E02            | SC-530-16CA               |                      |      |
| 166E03            | SC-531-20AA               |                      |      |
| 117E01            | SC-530-16BA               | I-117E               | 1988 |
| 117E02            | SC-531-20BA               |                      |      |
| 117E03            | SC-532-24AA               |                      |      |
| 117E04            | SC-533-28AA               |                      |      |
| 117E05            | SC-533-28BA               |                      |      |
| 118E01            | SC-532-24BA               | I-118E               | 1988 |
| 118E02            | SC-533-28CA               |                      |      |
| 119E02            | (USA)                     | I-119E               | 1990 |
| 119E03            |                           |                      |      |
| 120E              | NT194                     | I-120E               | 1990 |
| Forme F<br>100F   |                           | I-100F               | 1990 |
| 101F01            | 101F01                    | I-101F               | 1988 |
| 101F02            | 101F02                    |                      |      |
| Forme G<br>050G01 | SO-87D                    | I-50a/b/c/d          | 1985 |
| 050G02            | SO-188D                   |                      |      |
| 050G03            | SO-87A                    |                      |      |
| 050G04            | SO-87B                    |                      |      |
| 050G05            | SO-188A                   |                      |      |
| 050G06            | SO-188B                   |                      |      |
| 050G07            | SO-188F                   |                      |      |
| 050G08            | SO-87C                    |                      |      |
| 050G09            | SO-87E                    |                      |      |
| 050G10            | SO-188C                   |                      |      |
| 050G11            | SC505-18A                 |                      |      |
| 050G12            | SO-87G                    |                      |      |
| 050G13            | SO-188E                   |                      |      |
| 050G14            | (Sweden)                  |                      |      |
| 050G16            | A1AA                      | I-50e                | 1990 |
| 050G17            | A1AB                      |                      |      |
| 050G18            | A1BA                      |                      |      |
| 050G19            | A1BB                      |                      |      |
| 050G20            | A1CB                      |                      |      |
| 051G01            | SO-119A                   | I-51a/b/c/d          | 1985 |
| 051G02            | SO-119D                   |                      |      |
| 051G03            | SC509-24E                 |                      |      |
| 051G04            | SO-119B                   |                      |      |
| 051G05            | SO-119E                   |                      |      |
| 051G06            | SC510-28E                 |                      |      |
| 051G07            | SO-119C                   |                      |      |
| 051G08            | SO-119F                   |                      |      |
| 051G09            | SC511-40E                 |                      |      |
| 051G10            | SC512-42A/B               |                      |      |
| 051G11            | SC512-42C/D               |                      |      |
| 051G12            | SC512-42E                 |                      |      |
| 051G13            | F199A                     |                      |      |
| 051G14            | F199                      |                      |      |

## CHAPITRE I — DESSINS D'ENCOMBREMENTS

## Liste des dessins (suite)

| Numéro de code CEI | Code du pays d'origine | Numéro de page et date |      |
|--------------------|------------------------|------------------------|------|
| 060G01             | F150A                  | } I-60a/b/c/d          | 1985 |
| 060G02             | F150                   |                        |      |
| 060G03             | F197A                  |                        |      |
| 060G04             | F197                   |                        |      |
| 060G05             | SC506-20C              |                        |      |
| 060G06             | SO-141B                |                        |      |
| 060G07             | SO-141A                |                        |      |
| 060G08             | SO-186B                |                        |      |
| 060G09             | SO-141C                |                        |      |
| 060G10             | SO-186C                |                        |      |
| 060G11             | SC508-28A              |                        |      |
| 100G01             | SC557-16A              | } I-100G               | 1990 |
| 100G02             | SC557-20A              |                        |      |
| 100G03             | SC558-20A              |                        |      |
| 100G04             | SC558-24A              |                        |      |
| 100G05             | SC558-28A              |                        |      |

## CHAPTER I — DEVICE OUTLINE DRAWINGS

## List of drawings (continued)

| IEC code number | Code of country of origin | Page number and date |      |
|-----------------|---------------------------|----------------------|------|
| 060G01          | F150A                     | } I-60a/b/c/d        | 1985 |
| 060G02          | F150                      |                      |      |
| 060G03          | F197A                     |                      |      |
| 060G04          | F197                      |                      |      |
| 060G05          | SC506-20C                 |                      |      |
| 060G06          | SO-141B                   |                      |      |
| 060G07          | SO-141A                   |                      |      |
| 060G08          | SO-186B                   |                      |      |
| 060G09          | SO-141C                   |                      |      |
| 060G10          | SO-186C                   |                      |      |
| 060G11          | SC508-28A                 |                      |      |
| 100G01          | SC557-16A                 | } I-100G             | 1990 |
| 100G02          | SC557-20A                 |                      |      |
| 100G03          | SC558-20A                 |                      |      |
| 100G04          | SC558-24A                 |                      |      |
| 100G05          | SC558-28A                 |                      |      |

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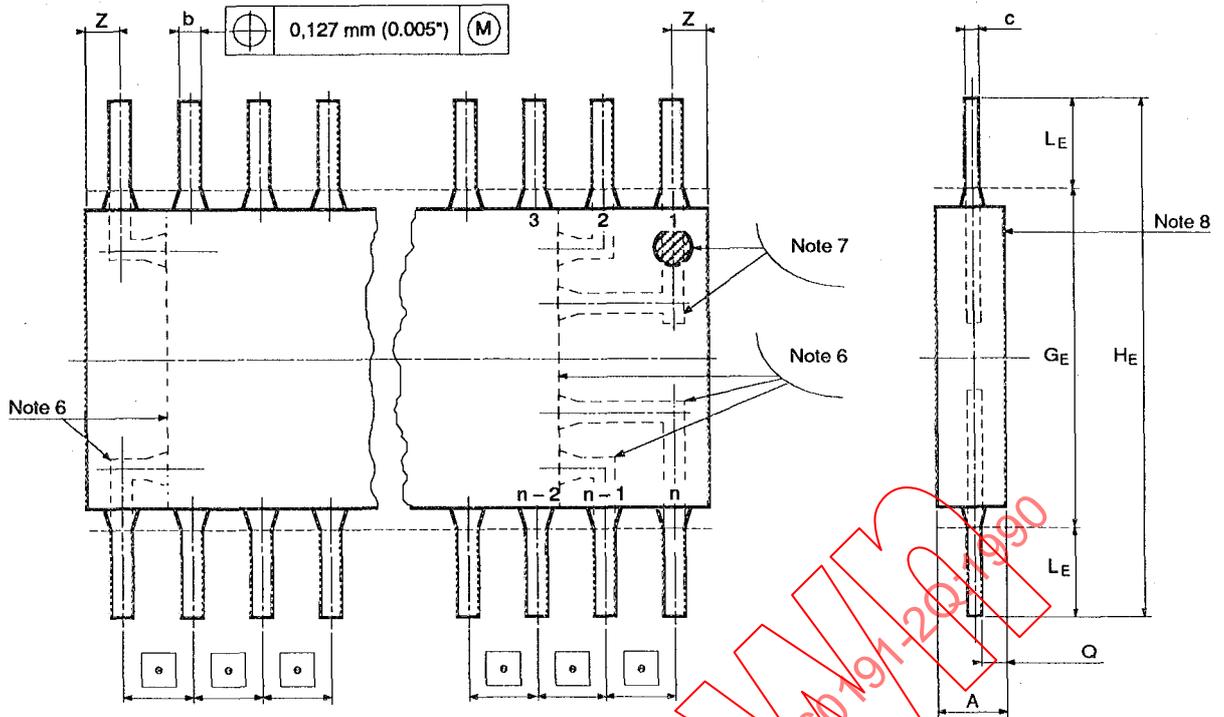
Types de dispositifs à semi-conducteurs généralement montés dans les boîtiers du chapitre I de la Publication CEI 191-2

Types of semiconductor devices generally mounted in the packages of Chapter I of IEC Publication 191-2

| Type de dispositif<br>Type of device   | Numéro de code CEI du dessin du boîtier<br>IEC code number of package drawing               |
|--|---|
| Diodes de signal et diodes Zener de faible puissance<br>Signal diodes and small-power Zener diodes | A1, A20, A24, A32, A54, A55, A58, A67, A69, A70, A71  |
| Diodes hyperfréquences<br>Microwave diodes   | A18   |
| Diodes de redressement de faible et moyenne puissances<br>Rectifier diodes, small and medium power | A2, A3, A4, A6, A7, A19, A37, A44, A74, 077B, 100B  |
| Diodes de redressement de forte puissance<br>High-power rectifier diodes                           | A8, A9, A10, A15, A16, A17, A21, A22, A35, 103B   |
| Thyristors de faible et moyenne puissances<br>Thyristors, small and medium power                   | A11, A13, A14, A38, A43   |
| Thyristors de forte puissance<br>High-power thyristors   | A12, A27, A28, A29, A34, A39, A47, 104B, 105B   |
| Transistors de signal<br>Signal transistors  | A36, A40, A41, A68, 046E, 114E  |
| Transistors de puissance<br>Power transistors  | A23, A30, A31, A43, A48, A56, A57, A45, A73, 101B, 102B, 120E, P100F                        |
| Transistors hyperfréquences<br>Microwave transistors   | A26, A42, A43, A59, A66, A72, 100C  |
| Dispositifs optoélectroniques<br>Optoelectronic devices  | A62, A64, A65, 063A, 100A, 101A, 106B, 107B   |
| Circuits intégrés<br>Integrated circuits   | A52, A53, A61, 075E, 076E, 102E, 112E, 115E, 116E, 117E, 118E, 119E, 050G, 051G, 060G, 100G |

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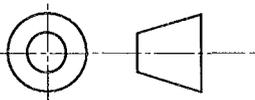


Les dimensions en inches sont déduites des dimensions d'origine en millimètres.

The inch dimensions are derived from the original millimetre dimensions.

| Réf.  | Millimètres |         |       | Inches |          |        | Notes |
|-------|-------------|---------|-------|--------|----------|--------|-------|
|       | Min         | Nom     | Max   | Min    | Nom      | Max    |       |
| A     | —           | —       | 2,3   | —      | —        | 0,090  |       |
| b     | 0,25        | —       | 0,54  | 0,0099 | —        | 0,0212 | 1     |
| c     | 0,07        | —       | 0,20  | 0,0028 | —        | 0,0078 |       |
| e     | —           | 1,27(*) | —     | —      | 0,050(*) | —      | 1, 2  |
| $G_E$ | —           | —       | 7,7   | —      | —        | 0,303  | 3     |
| $H_E$ | 13,72       | —       | 19,81 | 0,541  | —        | 0,779  |       |
| $L_E$ | 3,0         | —       | —     | 0,119  | —        | —      |       |
| Q     | 0,13        | —       | 0,90  | 0,006  | —        | 0,035  |       |

| Réf.  | Type A          | Type B          | Type C          | Type D          | Type E          | Notes |
|-------|-----------------|-----------------|-----------------|-----------------|-----------------|-------|
| n     | 14              | 14              | 10              | 24              | 16              | 2, 4  |
| Z max | 0,63mm (0.025") | 1,27mm (0.050") | 1,27mm (0.050") | 0,63mm (0.025") | 0,63mm (0.025") | 5     |



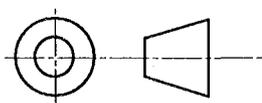
Famille d'encombremments A53  
Outline family A53

Date : 1990

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- |   |  |
|---|--|
| <p>1 - Le principe du maximum de matière (voir ISO/1101, partie 1) s'applique à la tolérance de position des sorties.</p> <p>2 - Certains fabricants fournissent ces boîtiers au pas de 1,25 mm (0.049"). Cela n'entraîne pratiquement pas de problèmes d'interchangeabilité avec les boîtiers au pas de 1,27 mm (0.050") ne comportant pas plus de 8 sorties. Il est conseillé à l'utilisateur qui veut s'assurer que les boîtiers à 10, 14 et 16 sorties (types A 53 A, A 53 B, A 53 C et A53E) seront respectivement interchangeables quelque soit leur pas et celui des plages de soudure sur les circuits de montage (1,27 mm ou 1,25 mm) d'utiliser des plages de soudure ayant une largeur minimale de 0,75 mm (0.030").</p> <p>3 - Dans cette zone, les sorties ne doivent pas être pliées, coupées ou utilisées et leurs dimensions ne sont pas contrôlées.</p> <p>4 - n correspond au nombre total de positions de sorties.</p> <p>5 - La dimension Z n'est spécifiée que s'il y a un dépassement du boîtier. Dans ce cas, le dépassement doit être inférieur au demi-pas (ou au pas éventuellement).</p> <p>6 - Le corps du boîtier peut être réduit dans cette zone, laissant ainsi une paire de sorties, ou plus, apparentes à cette extrémité du corps du boîtier.</p> <p>7 - Une marque index identifie la sortie n° 1. Lorsque la sortie n° 1 est apparente à l'extrémité du corps du boîtier, elle est différenciée des autres sorties apparentes par un ergot.</p> <p>8 - Plan de siège et plan de base.</p> <p>(*) Signifie position géométrique exacte.</p> | <p>1 - The maximum material condition (see ISO/1101, part 1) applies to the positional tolerance of the terminals.</p> <p>2 - Some manufacturers supply these packages with a terminal pitch of 1.25 mm (0.049"). This does not practically give rise to problems of interchangeability with packages having a terminal pitch of 1.27mm (0.050") provided that the number of terminals does not exceed 8. To be sure that packages with 10, 14 and 16 terminals (types A 53 A, A 53 B, A 53 C and A53E) will be respectively interchangeable whatever, their terminal pitch may be, as well as the pitch of soldering pads on mounting circuits (1.27 or 1.25 mm), the utilisation of soldering pads with a minimum width of 0.75 mm (0.030") is recommended to the users.</p> <p>3 - Within this zone, the terminals shall not be bent, cropped or used and their dimensions are not controlled.</p> <p>4 - n refers to the total number of terminal positions.</p> <p>5 - Dimension Z is specified only when a package overhang exists. In this case, the overhang will be less than half a pitch (or one pitch as the case may be).</p> <p>6 - The package body can be reduced in this zone, thus making one or more pairs of terminals visible at that body end.</p> <p>7 - An index mark indicates terminal no 1. When terminal no 1 is visible at the end of the package body, it is differentiated from other visible terminals by a tab</p> <p>8 - Seating plane and base plane.</p> <p>(*) Means true geometrical position.</p> |
|---|--|



Famille d'encombres A53  
Outline family A53

Date : 1990

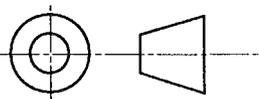
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Codes

| Pays ou organisation<br>Country or organisation | Code            |                 |                 |                 |                       |
|---|-----------------|-----------------|-----------------|-----------------|-----------------------|
|   | Type A          | Type B          | Type C          | Type D          | Type E                |
| CEI/IEC   | A53A            | A53B            | A53C            | A53D            | A53E                  |
| Royaume-Uni<br>United Kingdom                   | S0-93A $\Delta$ | S0-93B $\Delta$ | S0-93C $\Delta$ | S0-93D $\Delta$ | S0-93E                |
| France  | F94<br>F103     | F69             | F87             |                 |                       |
| Allemagne<br>Germany                            | 21B14           | 21C14           |                 |                 |                       |
| URSS<br>USSR                                    |                 | 4105.14-1       |                 |                 | 4106.16-2<br>$\Delta$ |
|   |                 |                 |                 |                 |                       |
|   |                 |                 |                 |                 |                       |
|   |                 |                 |                 |                 |                       |

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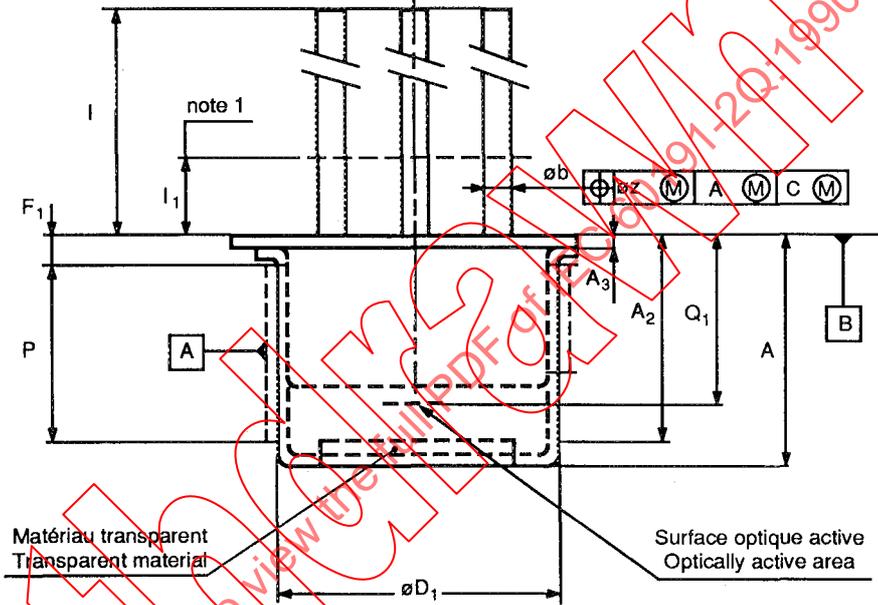
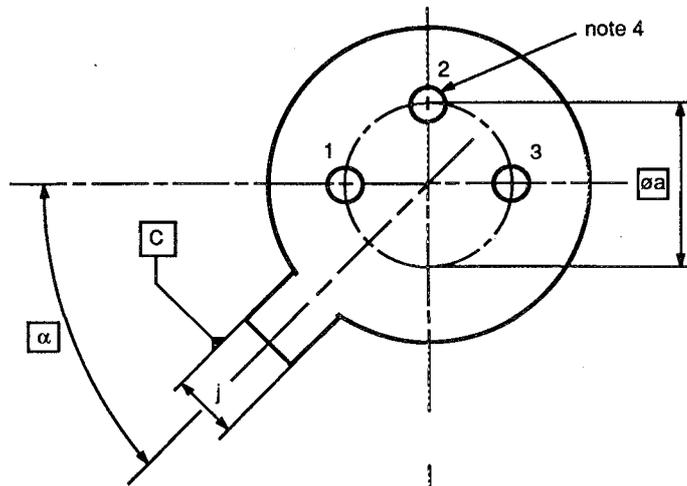


Famille d'encombrements A53  
Outline family A53

Date : 1990

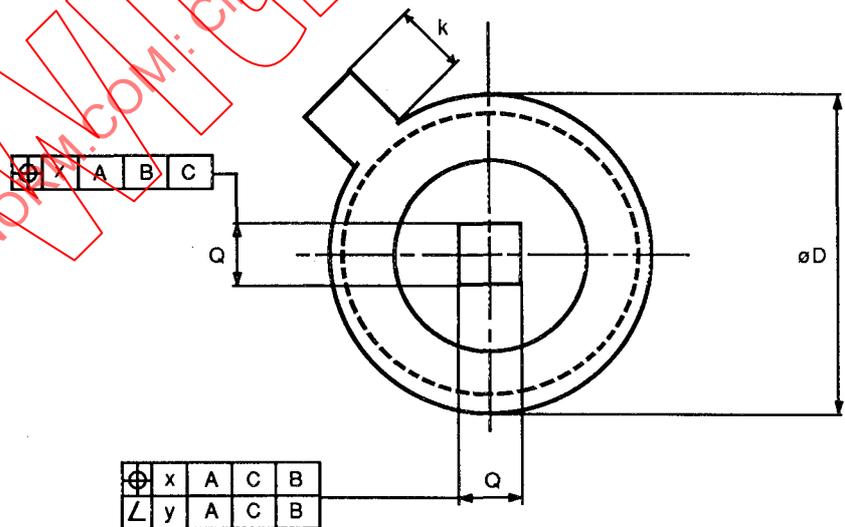
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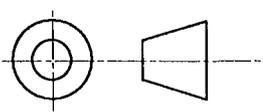


Matériau transparent  
Transparent material

Surface optique active  
Optically active area



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Famille d'encombrements 063A  
Outline family 063A

Date : 1990

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Les dimensions en inches sont déduites  
des dimensions d'origine en millimètres.

The inch dimensions are derived from  
the original millimetre dimensions.

| Réf.            | Millimètres |         |      | Inches |          |        | Degrés<br>Degrees | Notes |
|-----------------|-------------|---------|------|--------|----------|--------|-------------------|-------|
|                 | min         | nom     | max  | min    | nom      | max    |                   |       |
| ∅a              | —           | 2,54(*) | —    | —      | 0.100(*) | —      |                   |       |
| ∅b              | 0,40        | —       | 0,53 | 0.0158 | —        | 0.0200 |                   |       |
| ∅D              | 5,3         | —       | 5,5  | 0.2087 | —        | 0.2165 |                   |       |
| ∅D <sub>1</sub> | 4,6         | —       | 4,8  | 0.1811 | —        | 0.1889 |                   |       |
| F <sub>1</sub>  | —           | —       | 1,6  | —      | —        | 0.063  |                   |       |
| j               | 0,9         | —       | 1,2  | 0.0345 | —        | 0.0472 |                   |       |
| k               | 0,8         | —       | 1,2  | 0.0315 | —        | 0.0472 |                   |       |
| l               | 12,5        | —       | 14,5 | 0.493  | —        | 0.570  |                   |       |
| l <sub>1</sub>  | 1,3         | —       | —    | 0.52   | —        | —      |                   | 1     |
| Q               | —           | —       | —    | —      | —        | —      |                   | 2     |
| x               | —           | —       | 0,15 | —      | —        | 0.005  |                   |       |
| y               | —           | —       | 0,20 | —      | —        | 0.007  |                   |       |
| ∅z              | —           | —       | 0,35 | —      | —        | 0.013  |                   |       |
| α               | —           | —       | —    | —      | —        | —      | 45°               |       |

Type 063A01

| Réf.           | Millimètres |     |     | Inches |     |       | Degrés<br>Degrees | Notes |
|----------------|-------------|-----|-----|--------|-----|-------|-------------------|-------|
|                | min         | nom | max | min    | nom | max   |                   |       |
| A              | 3,4         | —   | 4,0 | 0.134  | —   | 0.157 |                   |       |
| A <sub>3</sub> | 0,4         | —   | 0,6 | 0.016  | —   | 0.023 |                   |       |
| P              | 2,2         | —   | —   | 0.087  | —   | —     |                   |       |
| Q <sub>1</sub> | 2,6         | —   | 3,1 | 0.103  | —   | 0.122 |                   | 3     |

1 - Le pliage des sorties n'est pas autorisé  
dans cette zone.

1 - Bending of the terminals is not allowed  
in this zone.

Date : 1990

Famille d'encombrements 063A  
Outline family 063A

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# Withdrawn

2 - Surface optique active. Il n'est pas indiqué de valeur pour la dimension Q qui concerne la surface optique active et non le boîtier. Toutefois sa position est tolérancée par rapport aux éléments de référence A, B et C.

2 - Optically active area. For dimension Q no value is given as this dimension relates to the optically active area and not to the outline. The position however of the optically active area with respect to the datum features A, B, C is given in the tolerance frame.

3 - La dimension Q1 n'est donnée qu'à titre d'information. Elle indique la position de la surface optique active.

3 - Dimension Q1 is given for information only. It indicates the position of the optically active area.

4 - La sortie 2 peut ne pas exister.

4 - Terminal 2 may be omitted.

(\*) Signifie position géométrique exacte.

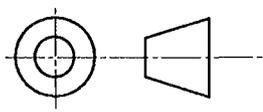
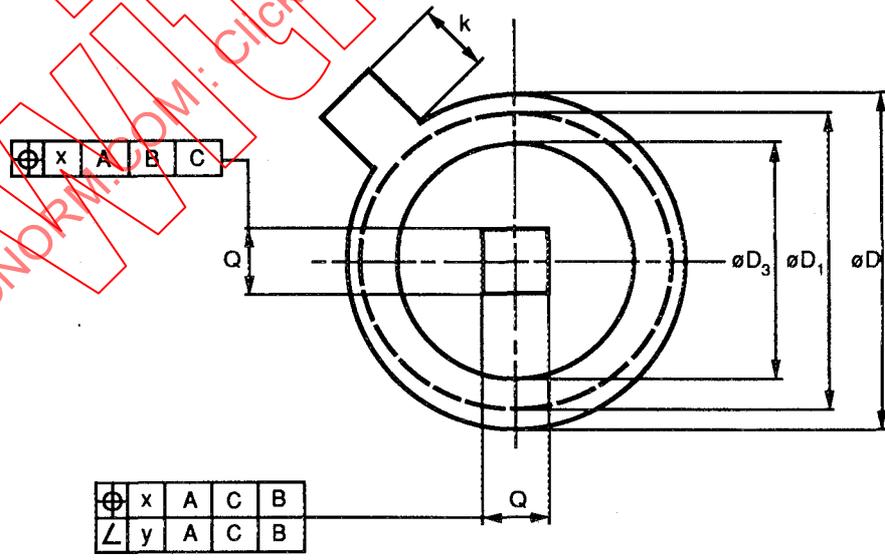
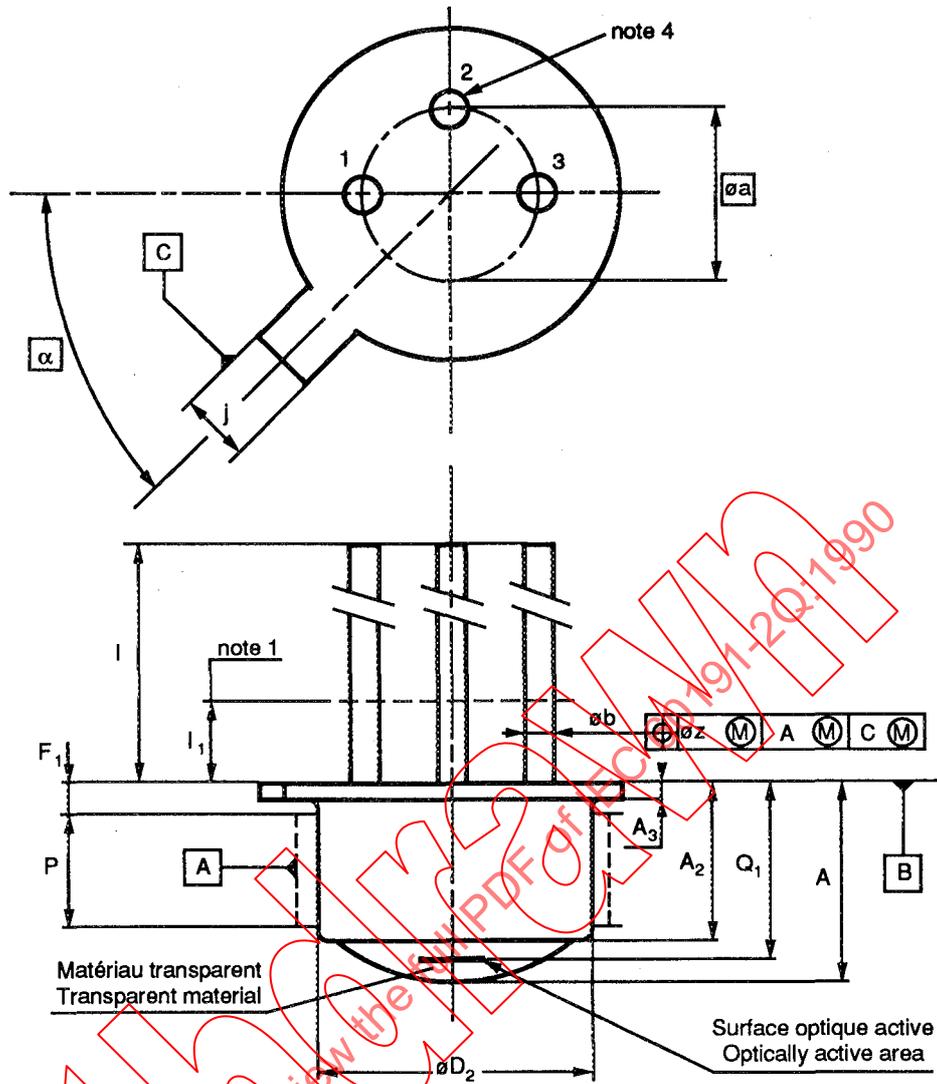
(\*) Means true geometrical position.

| Pays ou organisation<br>Country or organization | Codes   |   |  |
|---|---------|---|--|
| CEI<br>IEC                                      | 063A01  |   |  |
| Allemagne<br>Germany                            | 18H3    | Δ |  |
| Pays-Bas<br>Netherland                          |         |   |  |
| RDA<br>GDR                                      | F5AA3   |   |  |
| Royaume-Uni<br>United Kingdom                   | S0-145E |   |  |
| France  |         |   |  |
|   |         |   |  |

|                    |   |   |
|--------------------|---|---|
|                    | Famille d'encombrements 063A<br>Outline family 063A | Date : 1990                               |
| 191 IECI - 063A- c |   | Publication CEI<br>IEC Publication N° 191 |

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# Withdrawn



Famille d'encombrements 100A  
Outline family 100A

Date : 1990

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# Withdrawn

Les dimensions en inches sont déduites  
des dimensions d'origine en millimètres.

The inch dimensions are derived from  
the original millimetre dimensions.

| Réf.            | Millimètres |         |      | Inches |          |        | Degrés<br>Degrees | Notes |
|-----------------|-------------|---------|------|--------|----------|--------|-------------------|-------|
|                 | min         | nom     | max  | min    | nom      | max    |                   |       |
| ∅a              | —           | 2,54(*) | —    | —      | 0.100(*) | —      |                   |       |
| ∅b              | 0,40        | —       | 0,53 | 0.0158 | —        | 0.0200 |                   |       |
| ∅D              | 5,3         | —       | 5,5  | 0.2087 | —        | 0.2165 |                   |       |
| ∅D <sub>1</sub> | —           | —       | 4,8  | —      | —        | 0.188  |                   |       |
| ∅D <sub>2</sub> | 4,15        | —       | 4,25 | 0.1634 | —        | 0.1673 |                   |       |
| ∅D <sub>3</sub> | —           | —       | 4,15 | —      | —        | 0.163  |                   |       |
| F <sub>1</sub>  | —           | —       | 0,45 | —      | —        | 0.017  |                   |       |
| j               | 0,9         | —       | 1,2  | 0.0345 | —        | 0.0472 |                   |       |
| k               | 0,8         | —       | 1,2  | 0.0315 | —        | 0.0472 |                   |       |
| l               | 12,5        | —       | 14,5 | 0.493  | —        | 0.570  |                   |       |
| l <sub>1</sub>  | 1,3         | —       | —    | 0.52   | —        | —      |                   | 1     |
| Q               | —           | —       | —    | —      | —        | —      |                   | 2     |
| x               | —           | —       | 0,15 | —      | —        | 0.005  |                   |       |
| y               | —           | —       | 0,20 | —      | —        | 0.007  |                   |       |
| ∅z              | —           | —       | 0,35 | —      | —        | 0.013  |                   |       |
| α               | —           | —       | —    | —      | —        | —      | 45°               |       |

Type 100A01

| Réf.           | Millimètres |     |      | Inches |     |        | Degrés<br>Degrees | Notes |
|----------------|-------------|-----|------|--------|-----|--------|-------------------|-------|
|                | min         | nom | max  | min    | nom | max    |                   |       |
| A              | 2,98        | —   | 3,32 | 0.1173 | —   | 0.1307 |                   |       |
| A <sub>2</sub> | 2,45        | —   | 2,55 | 0.097  | —   | 0.101  |                   |       |
| A <sub>3</sub> | 0,18        | —   | 0,22 | 0.007  | —   | 0.009  |                   |       |
| P              | 1,4         | —   | —    | 0.055  | —   | —      |                   |       |
| Q <sub>1</sub> | 2,6         | —   | 2,9  | 0.103  | —   | 0.114  |                   | 3     |

Type 100A02

| Réf.           | Millimètres |     |      | Inches |     |        | Degrés<br>Degrees | Notes |
|----------------|-------------|-----|------|--------|-----|--------|-------------------|-------|
|                | min         | nom | max  | min    | nom | max    |                   |       |
| A              | 1,58        | —   | 2,22 | 0.0622 | —   | 0.0874 |                   |       |
| A <sub>2</sub> | 1,25        | —   | 1,40 | 0.050  | —   | 0.055  |                   |       |
| A <sub>3</sub> | 0,18        | —   | 0,22 | 0.007  | —   | 0.009  |                   |       |
| P              | 1,0         | —   | —    | 0.040  | —   | —      |                   |       |
| Q <sub>1</sub> | 1,5         | —   | 1,8  | 0.060  | —   | 0.070  |                   | 3     |

Date : 1990

Famille d'encombrements 100A  
Outline family 100A

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# Withdrawn

- 1 - Le pliage des sorties n'est pas autorisé dans cette zone.
- 2 - Surface optique active. Il n'est pas indiqué de valeur pour la dimension Q qui concerne la surface optique active et non le boîtier. Toutefois sa position est tolérancée par rapport aux éléments de référence A, B et C.
- 3 - La dimension Q1 n'est donnée qu'à titre d'information. Elle indique la position de la surface optique active.
- 4 - La sortie 2 peut ne pas exister.

(\*) Signifie position géométrique exacte.

- 1 - Bending of the terminals is not allowed in this zone.
- 2 - Optically active area. For dimension Q no value is given as this dimension relates to the optically active area and not to the outline. The position however of the optically active area with respect to the datum features A, B, C is given in the tolerance frame.
- 3 - Dimension Q1 is given for information only. It indicates the position of the optically active area.
- 4 - Terminal 2 may be omitted.

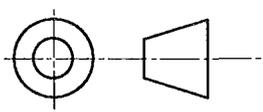
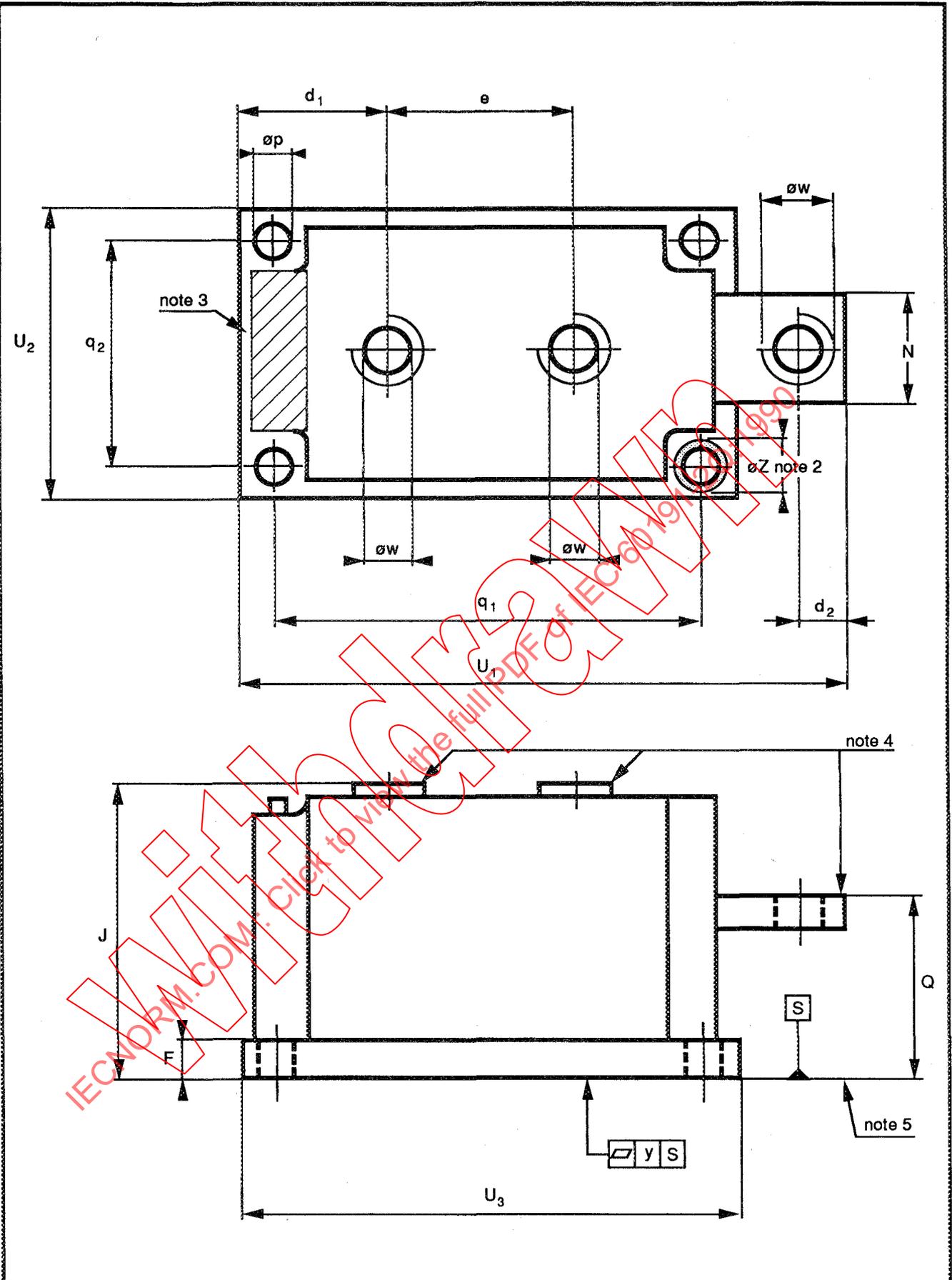
(\*) Means true geometrical position.

| Pays ou organisation<br>Country or organization | Codes      |         |
|---|------------|---------|
|   | CEI<br>IEC | 100A01  |
| Allemagne<br>Germany                            | 18J3 Δ     | 18K3 Δ  |
| Pays-Bas<br>Netherland                          |            |         |
| RDA<br>GDR                                      | F6A1       | F6A2    |
| Royaume-Uni<br>United Kingdom                   | S0-203A    | S0-203B |
| France  |            |         |
|   |            |         |

|                    |   |   |
|--------------------|---|---|
|                    | Famille d'encombrements 100A<br>Outline family 100A | Date : 1990                               |
| 191 IECI - 100A- c |   | Publication CEI<br>IEC Publication N° 191 |

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# Withdrawn



Encombrement 100B  
Outline 100B

Date : 1990

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# Withdrawn

| Réf.           | Millimètres |      |      | Inches (note 6) |       |       | Notes |
|----------------|-------------|------|------|-----------------|-------|-------|-------|
|                | min         | nom  | max  | min             | nom   | max   |       |
| d <sub>1</sub> | —           | 28,5 | —    | —               | 1.122 | —     |       |
| d <sub>2</sub> | —           | 9,0  | —    | —               | 0.354 | —     |       |
| e              | —           | 35,0 | —    | —               | 1.378 | —     |       |
| F              | 8,0         | —    | 10,0 | 0.315           | —     | 0.393 |       |
| J              | —           | —    | 55,5 | —               | —     | 2.185 |       |
| N              | 18,0        | —    | 21,0 | 0.709           | —     | 0.826 |       |
| øp             | 5,5         | —    | 6,0  | 0.217           | —     | 0.236 |       |
| Q              | 32,0        | —    | 34,0 | 1.260           | —     | 1.338 |       |
| q <sub>1</sub> | —           | 80,0 | —    | —               | 3.150 | —     |       |
| q <sub>2</sub> | —           | 38,0 | —    | —               | 1.496 | —     |       |
| U <sub>1</sub> | 114         | —    | 116  | 4.489           | —     | 4.566 |       |
| U <sub>2</sub> | —           | 50,0 | —    | —               | 1.968 | —     |       |
| U <sub>3</sub> | —           | 92,0 | —    | —               | 3.622 | —     |       |
| øW             | —           | M8   | —    | —               | M8    | —     | 1     |
| y              | —           | —    | 0,20 | —               | —     | 0.008 |       |
| øZ             | 11,0        | —    | —    | 0.433           | —     | —     | 2     |

1 - Trous taraudés ; profondeur minimale : 12 mm (0.472").

1 - Threaded holes; minimum depth: 12 mm (0.472").

2 - Diamètre minimal d'une zone plate, concentrique au trou de montage qui définit un espace inobstrué, disponible pour des éléments de fixation.

2 - Minimum diameter of a flat zone concentric to the mounting hole which defines an unobstructed space available for fixing purposes.

3 - Toutes les sorties auxiliaires devront être situées dans cette zone hachurée. Les formes et les dimensions de telles sorties ne sont pas imposées. Ces sorties doivent rester à l'intérieur de la dimension J.

3 - Any auxiliary terminal should be situated within this shaded area. The contour and dimensions of these terminals are undefined but the dimension J shall not be exceeded.

4 - La forme des sorties n'est pas imposée et la présentation montrée sur le dessin correspond à un exemple.

4 - The configuration of the terminals is optional and the representation shown on the drawing corresponds to an example.

5 - Plan de siège.

5 - Seating plane.

6 - Les dimensions en inches sont déduites des dimensions d'origine en millimètres.

6 - The inch dimensions are derived from the original millimetre dimensions.

Date : 1990

Encombrement 100B  
Outline 100B

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# Withdrawn

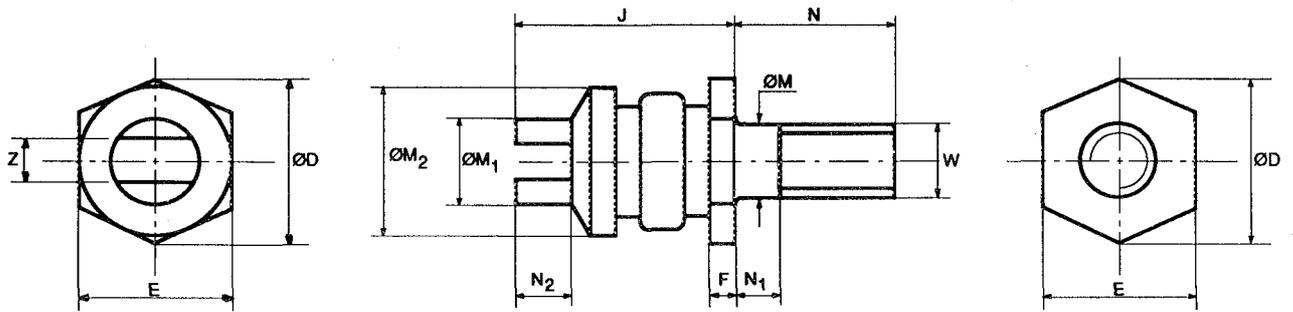
| Pays ou organisation<br>Country or organization | Code   |
|---|--------|
| CEI<br>IEC                                      | 100B   |
| Allemagne<br>Germany                            | 100B Δ |
| Royaume-Uni<br>United Kingdom                   | SO-210 |
| RDA<br>GDR                                      | L3C    |
|   |        |
|   |        |
|   |        |

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|                     |                                   |   |
|---------------------|-----------------------------------|---|
|                     | Encombrement 100B<br>Outline 100B | Date : 1990                               |
| 191 IECI - 100B - c |                                   | Publication CEI<br>IEC Publication N° 191 |

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**Withdrawn**



Les dimensions en inches sont déduites des dimensions d'origine en millimètres.

The inch dimensions are derived from the original millimetre dimensions.

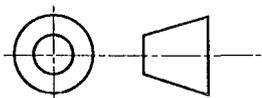
| Réf.            | Millimètres |     |      | Inches |     |        | Notes |
|-----------------|-------------|-----|------|--------|-----|--------|-------|
|                 | min         | nom | max  | min    | nom | max    |       |
| ØD              | 5,3         | —   | 5,6  | 0,209  | —   | 0,220  | 1     |
| F               | 1,0         | —   | 3,0  | 0,040  | —   | 0,118  |       |
| J               | 10,0        | —   | 12,0 | 0,40   | —   | 0,47   |       |
| ØM              | —           | —   | —    | —      | —   | —      |       |
| ØM <sub>1</sub> | 3,0         | —   | 4,0  | 0,119  | —   | 0,157  |       |
| ØM <sub>2</sub> | 4,8         | —   | 5,0  | 0,1890 | —   | 0,1968 |       |
| N               | 6,1         | —   | 6,9  | 0,241  | —   | 0,271  |       |
| N <sub>1</sub>  | —           | —   | 1,0  | —      | —   | 0,039  |       |
| N <sub>2</sub>  | 2,88        | —   | 3,12 | 0,1134 | —   | 0,1228 |       |
| Z               | 0,75        | —   | 1,00 | 0,0296 | —   | 0,0393 |       |

100C01

|   |                        |      |      |  |  |   |
|---|------------------------|------|------|--|--|---|
| E | 4,84                   | 5,00 | 5,04 |  |  |   |
| W | N° de Réf. ISO M3 - 6h |      |      |  |  | 2 |

100C02

|   |  |              |     |   |   |
|---|--|--------------|-----|---|---|
| E |  | —            | 0,2 | — |   |
| W |  | 5 - 44UNF 2A |     |   | 2 |



Famille d'encombres 100C  
Outline family 100C

Date : 1990

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# Withdrawn

- 1 - Le diamètre M s'applique à la zone N1. Sa valeur maximale ne devra pas être supérieure au diamètre extérieur du filetage.
- 2 - Un diamètre minimal du trou de passage de 4,9 mm (0.193") assure l'interchangeabilité entre les dispositifs de type 1 et ceux de type 2.

- 1 - The diameter M refers to zone N1. The maximum value should not exceed the outside diameter of the thread.
- 2 - A clearance hole of 4.9 mm (0.193") minimum diameter ensures interchangeability between type 1 and type 2 devices.

| Pays ou organisation<br>Country or organization | Codes   |        |
|---|---------|--------|
|   | 100C01  | 100C02 |
| CEI / IEC                                       | 100C01  | 100C02 |
| URSS<br>USSR                                    | KD-10 Δ |        |
| Canada  |         |        |
| Pays-Bas<br>Netherlands                         |         |        |
|   |         |        |
|   |         |        |

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# Withdrawn

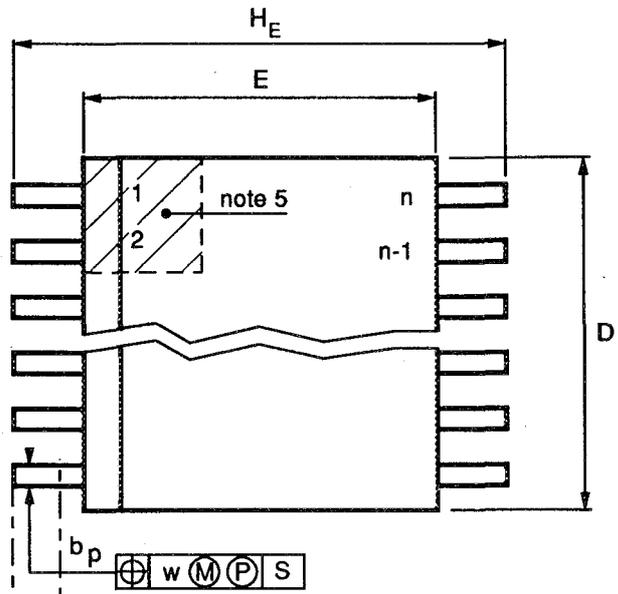


Fig. 1a

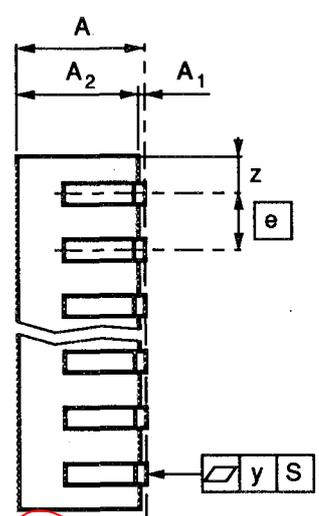


Fig. 1c

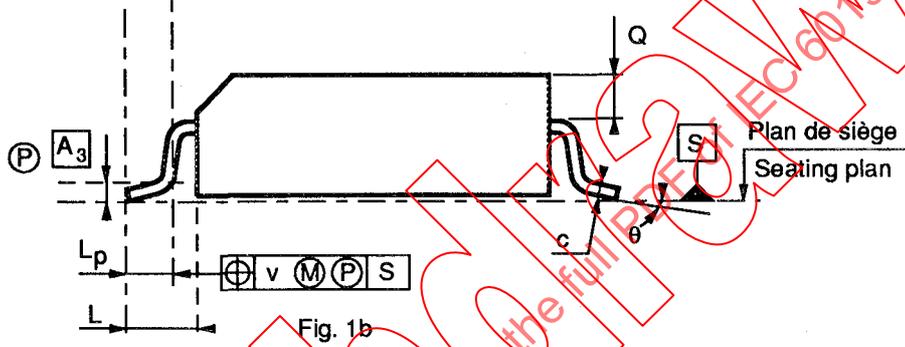


Fig. 1b

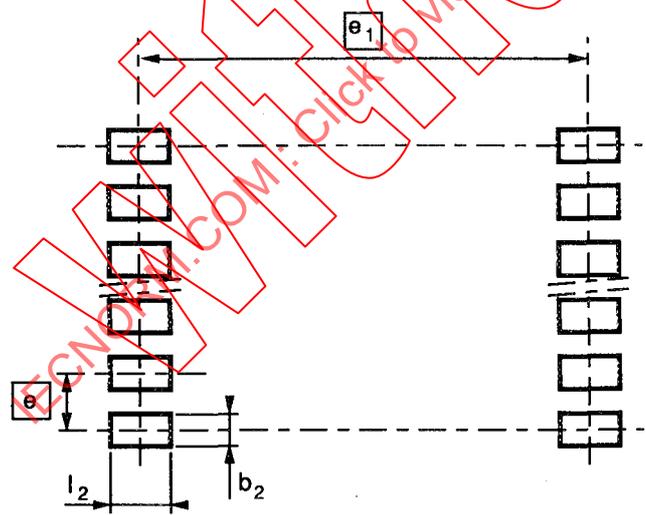
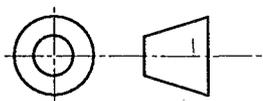


Fig. 2

Gabarit des zones de contact des sorties  
Pattern of terminal land areas



Famille d'encombres 075E A/B  
Outline family 075E A/B

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# Withdrawn

Groupe 1 - Dimensions appropriées pour le montage et l'interchangeabilité.  
 Group 1 - Dimensions appropriate to mounting and interchangeability.

Note 6

| Réf.           | Millimètres |         |        | Inches   |          |          | Degrés<br>Degrees | Notes |
|----------------|-------------|---------|--------|----------|----------|----------|-------------------|-------|
|                | min         | nom     | max    | min      | nom      | max      |                   |       |
| A              | [2,35]      | —       | 2,65   | [0.0926] | —        | 0.1043   |                   |       |
| A <sub>1</sub> |             | —       |        |          | —        |          |                   | 1     |
| A <sub>2</sub> | 2,25        | —       | [2,45] | 0.0886   | —        | [0.0964] |                   |       |
| A <sub>3</sub> | —           | 0,3(*)  | —      | —        | 0.012(*) | —        |                   | 2     |
| b <sub>p</sub> | 0,35        | —       | 0,49   | 0.0138   | —        | —        |                   | 2     |
| e              | —           | 1,27(*) | —      | —        | 0.050(*) | 0.0192   |                   | 2     |
| H <sub>E</sub> | 10,1        | —       | 10,7   | 0.398    | —        | —        |                   |       |
| L              | 1,35        | —       | 1,55   | 0.0532   | —        | 0.421    |                   |       |
| L <sub>P</sub> | 0,3         | —       | 1,1    | 0.012    | —        | 0.0610   |                   | 2     |
| v              | —           | —       | 0,25   | —        | —        | 0.043    |                   |       |
| w              | —           | —       | 0,25   | —        | —        | 0.010    |                   |       |
| y              | —           | —       | 0,15   | —        | —        | 0.010    |                   | 3     |
| Z              | —           | —       | 0,82   | —        | —        | 0.006    |                   |       |
| θ              |             |         |        |          |          | 0.032    | 0 - 10            |       |

Groupe 2 - Dimensions appropriées pour le montage et le contrôle par calibre.  
 Group 2 - Dimensions appropriate to mounting and gauging.

Note 6

| Réf.           | Millimètres |         |      | Inches |          |       | Degrés<br>Degrees | Notes |
|----------------|-------------|---------|------|--------|----------|-------|-------------------|-------|
|                | min         | nom     | max  | min    | nom      | max   |                   |       |
| b <sub>2</sub> | —           | —       | 0,76 | —      | —        | 0.030 |                   | 2     |
| e              | —           | 1,27(*) | —    | —      | 0.050(*) | —     |                   | 2     |
| e <sub>1</sub> | —           | 9,53(*) | —    | —      | 0.375(*) | —     |                   | 2     |
| l <sub>2</sub> | —           | —       | 1,27 | —      | —        | 0.050 |                   | 2     |

Groupe 3 - Dimensions appropriées pour la manipulation automatique.  
 Group 3 - Dimensions appropriate to automated handling.

Note 6

| Réf.           | Millimètres            |     |        | Inches               |     |          | Degrés<br>Degrees | Notes |
|----------------|------------------------|-----|--------|----------------------|-----|----------|-------------------|-------|
|                | min                    | nom | max    | min                  | nom | max      |                   |       |
| A <sub>2</sub> | 2,25                   | —   | [2,45] | 0.0886               | —   | [0.0964] |                   |       |
| D              | Voir tableaux suivants |     |        | See following tables |     |          |                   |       |
| E              | 7,40                   | —   | 7,60   | 0.2914               | —   | 0.2992   |                   |       |
| Q              | 1,00                   | —   | 1,10   | 0.0394               | —   | 0.0433   |                   |       |

Date : 1990

Famille d'encombrements 075E A/B  
 Outline family 075E A/B

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# Withdrawn

**Millimètres** Note 6

| Réf.             | 075E01 | 075E02 | 075E03 | 075E04 | 075E05 | 075E06 | Notes |
|------------------|--------|--------|--------|--------|--------|--------|-------|
| n                | 10     | 14     | 16     | 20     | 24     | 28     | 4     |
| D <sub>min</sub> | 6,30   | 8,80   | 10,10  | 12,60  | 15,20  | 17,70  |       |
| D <sub>max</sub> | 6,70   | 9,20   | 10,50  | 13,00  | 15,60  | 18,10  |       |

**Inches** Note 6

| Ref.             | 075E01 | 075E02 | 075E03 | 075E04 | 075E05 | 075E06 | Notes |
|------------------|--------|--------|--------|--------|--------|--------|-------|
| n                | 10     | 14     | 16     | 20     | 24     | 28     | 4     |
| D <sub>min</sub> | 0.248  | 0.346  | 0.398  | 0.496  | 0.598  | 0.697  |       |
| D <sub>max</sub> | 0.264  | 0.362  | 0.413  | 0.512  | 0.614  | 0.713  |       |

Groupe 4 - Dimensions pour information seulement.  
Group 4 - Dimensions for information only.

Note 6

| Réf. | Millimètres |     |      | Inches |     |        | Degrés<br>Degrees | Notes |
|------|-------------|-----|------|--------|-----|--------|-------------------|-------|
|      | min         | nom | max  | min    | nom | max    |                   |       |
| c    | 0,23        | —   | 0,32 | 0.0091 | —   | 0.0125 |                   |       |

1 - Pour les boîtiers de type A  
A<sub>1</sub> min = 0,00 mm (0.00")  
A<sub>1</sub> max = 0,15 mm (0.0059")  
Pour les boîtiers de type B  
A<sub>1</sub> min = 0,10 mm (0.0039")  
A<sub>1</sub> max = 0,30 mm (0.0118")

1 - For type A packages  
A<sub>1</sub> min = 0,00 mm (0.00")  
A<sub>1</sub> max = 0,15 mm (0.0059")  
For type B packages  
A<sub>1</sub> min = 0,10 mm (0.0039")  
A<sub>1</sub> max = 0,30 mm (0.0118")

2 - Le contrôle des dimensions et des positions des sorties est valablement réalisé lorsque l'on s'assure que ces sorties s'ajustent avec le gabarit des zones de contact des sorties. Cela peut être réalisé à l'aide d'un calibre approprié.

2 - Check of the dimensions and positions of package terminals is validly performed when it is ensured that these terminals fit with the pattern of terminal land areas. This can be carried out by means of an appropriate gauge.

3 - Toutes les surfaces de contact des sorties doivent être comprises dans un intervalle allant du plan de siège à un plan situé au-dessus, parallèle et distant de ce dernier de y mm.

3 - All terminal contact surfaces shall lie between the seating plane and a plane parallel to it y mm above it.

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Famille d'encombrements 075E A/B  
Outline family 075E A/B

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4 - n correspond au nombre total de positions de sorties.

4 - n refers to the total number of terminal positions.

5 - Zone d'un repère visible sur la face supérieure permettant de définir la sortie n° 1.

5 - Zone of a visible index on the top face allowing to define terminal 1.

6 - Les dimensions en inches sont déduites des dimensions d'origine en millimètres.

6 - The inch dimensions are derived from the original millimetre dimensions.

(\*) Signifie position géométrique exacte.

(\*) Means true geometrical position.

[ ] Les valeurs données entre crochets sont des valeurs calculées.

[ ] Values given within square brackets are calculated values.

Ⓟ Signifie zone de tolérance projetée (voir ISO 1101, partie 1, article 11).

Ⓟ Means projected tolerance zone (see ISO 1101, Part 1, clause 11).

#### Codes

| CEI / IEC | Pays-Bas<br>Netherlands | Royaume-Uni<br>United Kingdom | Allemagne<br>Germany | RDA<br>GDR |  |
|-----------|-------------------------|-------------------------------|----------------------|------------|--|
| 075E01    |                         | SO-192E <sup>Δ</sup>          | 24B10                |            |  |
| 075E02    |                         | SO-192F <sup>Δ</sup>          | 24B14                | G2 FA      |  |
| 075E03    | NT 162 <sup>Δ</sup>     | SO-192A                       | 24B16                | G2 GA      |  |
| 075E04    | NT 163 <sup>Δ</sup>     | SO-192B                       | 24B20                | G2 KA      |  |
| 075E05    | NT 137 <sup>Δ</sup>     | SO-192C                       | 24B24                | G2 NA      |  |
| 075E06    | NT 136 <sup>Δ</sup>     | SO-192D                       | 24B28                | G2 FA      |  |

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Famille d'encombres 075E A/B  
Outline family 075E A/B

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# Withdrawn

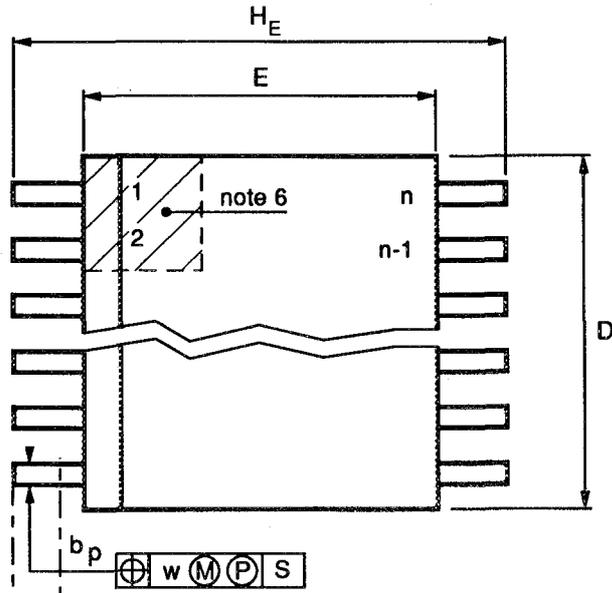


Fig. 1a

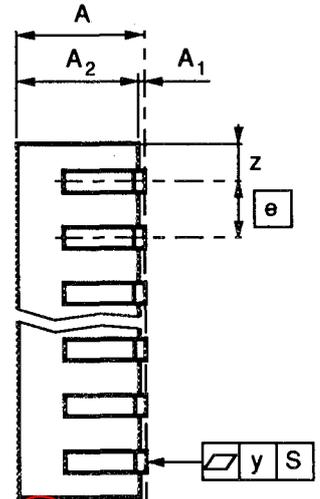


Fig. 1c

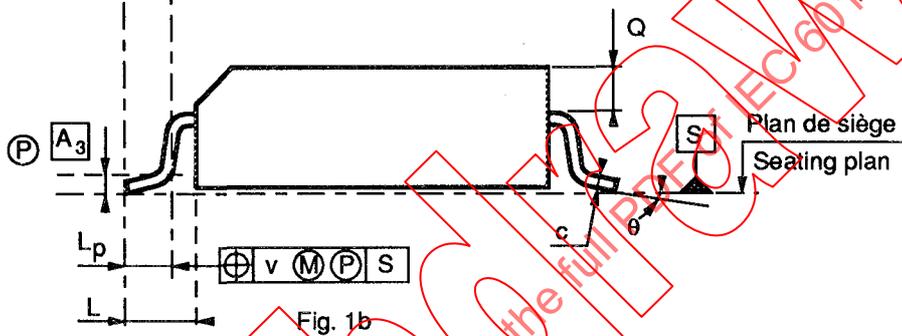


Fig. 1b

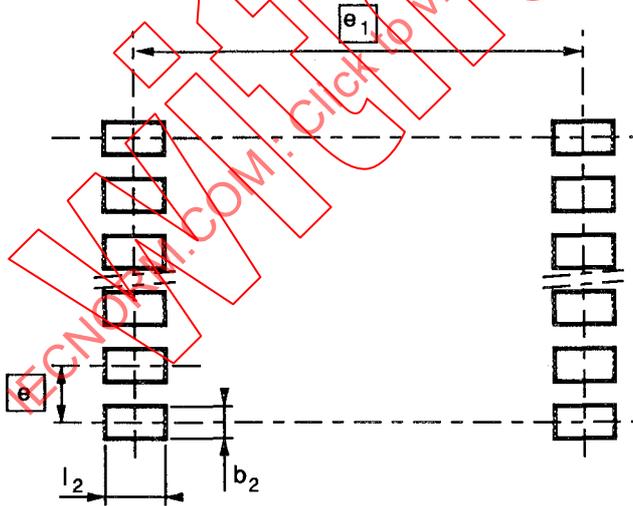


Fig. 2

Gabarit des zones de contact des sorties  
Pattern of terminal land areas

Famille d'encombres 076E L/S  
A/B  
Outline family 076E L/S  
A/B

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# Withdrawn

Groupe 1 - Dimensions appropriées pour le montage et l'interchangeabilité.  
 Group 1 - Dimensions appropriate to mounting and interchangeability.

Note 7

| Réf.           | Millimètres |         |        | Inches   |          |          | Degrés<br>Degrees | Notes |
|----------------|-------------|---------|--------|----------|----------|----------|-------------------|-------|
|                | min         | nom     | max    | min      | nom      | max      |                   |       |
| A              | [1,35]      | —       | 2,00   | [0.0532] | —        | 0.0787   |                   | 1     |
| A 1            |             | —       |        |          | —        |          |                   |       |
| A 2            | 1,25        | —       | [1,80] | 0.0493   | —        | [0.0708] |                   | 2     |
| A 3            | —           | 0,3(*)  | —      | —        | 0.012(*) | —        |                   |       |
| b <sub>p</sub> | 0,35        | —       | 0,49   | 0.0138   | —        | 0.0192   |                   | 2     |
| e              | —           | 1,27(*) | —      | —        | 0.050(*) | —        |                   | 2     |
| H <sub>E</sub> | 5,5         | —       | 6,7    | 0.217    | —        | 0.263    |                   |       |
| L              | 0,85        | —       | 1,25   | 0.0335   | —        | 0.0492   |                   |       |
| L <sub>p</sub> | 0,3         | —       | 1,1    | 0.012    | —        | 0.043    |                   | 2     |
| v              | —           | —       | 0,25   | —        | —        | 0.010    |                   |       |
| w              | —           | —       | 0,25   | —        | —        | 0.010    |                   |       |
| y              | —           | —       | 0,15   | —        | —        | 0.006    |                   | 3     |
| Z              | —           | —       | —      | —        | —        | —        |                   | 4     |
| θ              |             |         |        |          |          |          | 0 - 10            |       |

Groupe 2 - Dimensions appropriées pour le montage et le contrôle par calibre.  
 Group 2 - Dimensions appropriate to mounting and gauging.

Note 7

| Réf.           | Millimètres |         |      | Inches |          |       | Degrés<br>Degrees | Notes |
|----------------|-------------|---------|------|--------|----------|-------|-------------------|-------|
|                | min         | nom     | max  | min    | nom      | max   |                   |       |
| b <sub>2</sub> | —           | —       | 0,76 | —      | —        | 0.030 |                   | 2     |
| e              | —           | 1,27(*) | —    | —      | 0.050(*) | —     |                   | 2     |
| e <sub>1</sub> | —           | 5,72(*) | —    | —      | 0.225(*) | —     |                   | 2     |
| l <sub>2</sub> | —           | —       | 1,27 | —      | —        | 0.050 |                   | 2     |

Groupe 3 - Dimensions appropriées pour la manipulation automatique.  
 Group 3 - Dimensions appropriate to automated handling.

Note 7

| Réf.           | Millimètres            |     |        | Inches               |     |          | Degrés<br>Degrees | Notes |
|----------------|------------------------|-----|--------|----------------------|-----|----------|-------------------|-------|
|                | min                    | nom | max    | min                  | nom | max      |                   |       |
| A <sub>2</sub> | 1,25                   | —   | [1,80] | 0.0493               | —   | [0.0708] |                   |       |
| D              | Voir tableaux suivants |     |        | See following tables |     |          |                   |       |
| E              | 3,80                   | —   | 4,20   | 0.150                | —   | 0.165    |                   |       |
| Q              | 0,60                   | —   | 0,85   | 0.0237               | —   | 0.0334   |                   |       |

|                     |   |   |
|---------------------|---|---|
|                     | Famille d'encombrements 076E L/S<br>A/B<br><br>Outline family 076E L/S<br>A/B | Date : 1990                               |
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Millimètres Note 7

| Réf.             | 076E01S | 076E01L | 076E02S | 076E02L | 076E03S | 076E03L | 076E04S | Notes |
|------------------|---------|---------|---------|---------|---------|---------|---------|-------|
| n                | 4       | 4       | 6       | 6       | 8       | 8       | 10      | 5     |
| D <sub>min</sub> | 2,30    | 3,60    | 3,60    | 4,80    | 4,80    | 6,10    | 6,10    |       |
| D <sub>max</sub> | 2,54    | 3,81    | 3,81    | 5,08    | 5,08    | 6,35    | 6,35    |       |

Millimètres Note 7

| Réf.             | 076E04L | 076E05S | 076E05L | 076E06S | 076E06L | 076E07S | 076E07L | Notes |
|------------------|---------|---------|---------|---------|---------|---------|---------|-------|
| n                | 10      | 12      | 12      | 14      | 14      | 16      | 16      | 5     |
| D <sub>min</sub> | 7,30    | 7,30    | 8,55    | 8,55    | 9,80    | 9,80    | 11,10   |       |
| D <sub>max</sub> | 7,62    | 7,62    | 8,89    | 8,89    | 10,16   | 10,16   | 11,43   |       |

Inches Note 7

| Ref.             | 076E01S | 076E01L | 076E02S | 076E02L | 076E03S | 076E03L | 076E04S | Notes |
|------------------|---------|---------|---------|---------|---------|---------|---------|-------|
| n                | 4       | 4       | 6       | 6       | 8       | 8       | 10      | 5     |
| D <sub>min</sub> | 0.091   | 0.142   | 0.142   | 0.189   | 0.189   | 0.240   | 0.240   |       |
| D <sub>max</sub> | 0.100   | 0.150   | 0.150   | 0.200   | 0.200   | 0.250   | 0.250   |       |

Inches Note 7

| Ref.             | 076E04L | 076E05S | 076E05L | 076E06S | 076E06L | 076E07S | 076E07L | Notes |
|------------------|---------|---------|---------|---------|---------|---------|---------|-------|
| n                | 10      | 12      | 12      | 14      | 14      | 16      | 16      | 5     |
| D <sub>min</sub> | 0.287   | 0.287   | 0.337   | 0.337   | 0.386   | 0.386   | 0.437   |       |
| D <sub>max</sub> | 0.300   | 0.300   | 0.350   | 0.350   | 0.400   | 0.400   | 0.450   |       |

Groupe 4 - Dimensions pour information seulement.  
Group 4 - Dimensions for information only.

Note 7

| Réf. | Millimètres |     |      | Inches |     |       | Degrés<br>Degrees | Notes |
|------|-------------|-----|------|--------|-----|-------|-------------------|-------|
|      | min         | nom | max  | min    | nom | max   |                   |       |
| c    | 0,15        | —   | 0,25 | 0.006  | —   | 0.010 |                   |       |

Famille d'encombres 076E L/S  
A/B  
Outline family 076E L/S  
A/B

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- |  |   |
|--|---|
| <p>1 - Pour les boîtiers de type A<br/> <math>A_1</math> min = 0,00 mm (0.00")<br/> <math>A_1</math> max = 0,15 mm (0.0059")<br/>         Pour les boîtiers de type B<br/> <math>A_1</math> min = 0,10 mm (0.0039")<br/> <math>A_1</math> max = 0,30 mm (0.0118")</p> <p>2 - Le contrôle des dimensions et des positions des sorties est valablement réalisé lorsque l'on s'assure que ces sorties s'ajustent avec le gabarit des zones de contact des sorties.<br/>         Cela peut être réalisé à l'aide d'un calibre approprié.</p> <p>3 - Toutes les surfaces de contact des sorties doivent être comprises dans un intervalle allant du plan de siège à un plan situé au-dessus, parallèle et distant de ce dernier de y mm.</p> <p>4 - Les boîtiers courts 075E01S, 02S, 03S, 04S, 05S, 06S et 07S peuvent être montés jointifs sans perte de pas lorsque leur dépassement Z est inférieur à e/2.<br/>         Pour les boîtiers longs 076E01L, 02L, 03L, 04L, 05L, 06L et 07L le montage jointif donne lieu à la perte d'au moins un pas lorsque leur dépassement Z est compris entre e/2 et e.</p> <p>5 - n correspond au nombre total de positions de sorties.</p> <p>6 - Zone d'un repère visible sur la face supérieure permettant de définir la sortie n° 1.</p> <p>7 - Les dimensions en inches sont déduites des dimensions d'origine en millimètres.</p> <p>(*) Signifie position géométrique exacte.</p> <p>[ ] Les valeurs données entre crochets sont des valeurs calculées.</p> <p>(P) Signifie zone de tolérance projetée (voir ISO 1101, partie 1, article 11).</p> | <p>1 - For type A packages<br/> <math>A_1</math> min = 0,00 mm (0.00")<br/> <math>A_1</math> max = 0,15 mm (0.0059")<br/>         For type B packages<br/> <math>A_1</math> min = 0,10 mm (0.0039")<br/> <math>A_1</math> max = 0,30 mm (0.0118")</p> <p>2 - Check of the dimensions and positions of package terminals is validly performed when it is ensured that these terminals fit with the pattern of terminal land areas.<br/>         This can be carried out by means of an appropriate gauge.</p> <p>3 - All terminal contact surfaces shall lie between the seating plane and a plane parallel to it y mm above it.</p> <p>4 - The short packages 076E01S, 02S, 03S, 04S, 05S, 06S and 07S may be mounted edge to edge without loss of pitch when their overhang Z is less than e/2.<br/>         For the long packages 076E01L, 02L, 03L, 04L, 05L, 06L and 07L, the mounting edge to edge results in the loss of at least one pitch when their overhang Z is comprised between e/2 and e.</p> <p>5 - n refers to the total number of terminal positions.</p> <p>6 - Zone of a visible index on the top face allowing to define terminal 1.</p> <p>7 - The inch dimensions are derived from the original millimetre dimensions.</p> <p>(*) Means true geometrical position.</p> <p>[ ] Values given within square brackets are calculated values.</p> <p>(P) Means projected tolerance zone (see ISO 1101, Part 1, Clause 11).</p> |
|--|---|

|                     |   |   |
|---------------------|---|---|
|                     | Famille d'encombrements 076E <sup>L/S</sup> / <sub>A/B</sub><br>Outline family 076E <sup>L/S</sup> / <sub>A/B</sub> | Date : 1990                               |
| 191 IECI - 076E - d |   | Publication CEI<br>IEC Publication N° 191 |

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## Codes

| CEI / IEC | France  | Pays-Bas<br>Netherlands | Allemagne<br>Germany | RDA<br>GDR | URSS<br>USSR | Royaume-Uni<br>United Kingdom |  |
|-----------|---------|-------------------------|----------------------|------------|--------------|-------------------------------|--|
| 076E01S   | F174A Δ |                         |                      | G1AA       |              |                               |  |
| 076E01L   | F174 Δ  |                         | 24A4                 | G1AB       |              |                               |  |
| 076E02S   | F175A Δ |                         |                      | G1BA       |              |                               |  |
| 076E02L   | F175 Δ  |                         | 24A6                 | G1BB       |              |                               |  |
| 076E03S   | F176A Δ | NT 96                   |                      | G1CA       |              | SO-193A                       |  |
| 076E03L   | F176 Δ  |                         | 24A8                 | G1CB       |              |                               |  |
| 076E04S   | F177A Δ |                         |                      | G1DA       | M04          |                               |  |
| 076E04L   | F177 Δ  |                         | 24A10                | G1DB       |              |                               |  |
| 076E05S   | F178A Δ |                         |                      | G1EA       |              |                               |  |
| 076E05L   | F178 Δ  |                         | 24A12                | G1EB       |              |                               |  |
| 076E06S   | F179A Δ | NT 108                  |                      | G1FA       |              | SO-193B                       |  |
| 076E06L   | F179 Δ  |                         | 24A14                | G1FB       |              |                               |  |
| 076E07S   | F180A Δ | NT 109                  |                      | G1GA       |              |                               |  |
| 076E07L   | F180 Δ  |                         | 24A16                | G1GB       |              | SO-193C                       |  |

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|                     |   |   |
|---------------------|---|---|
|                     | Famille d'encombrements 076E L/S<br>A/B<br><br>Outline family 076E L/S<br>A/B | Date : 1990                               |
| 191 IECI - 076E - e |   | Publication CEI<br>IEC Publication N° 191 |

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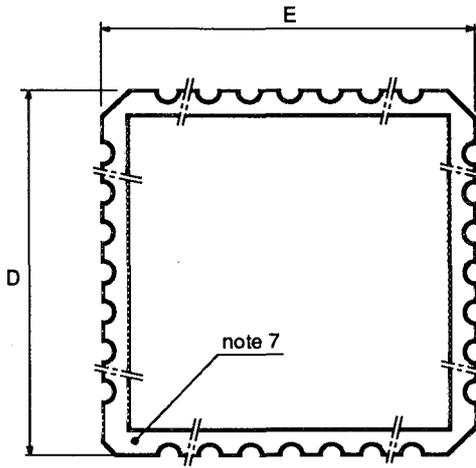


Fig 1a

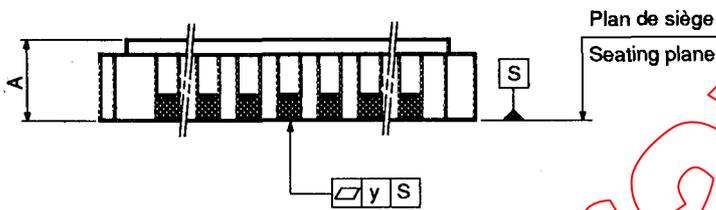


Fig 1b

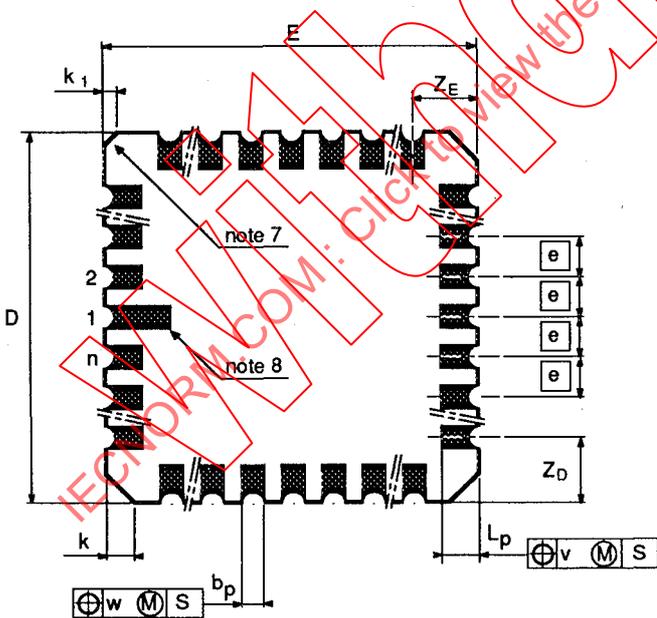


Fig 1c

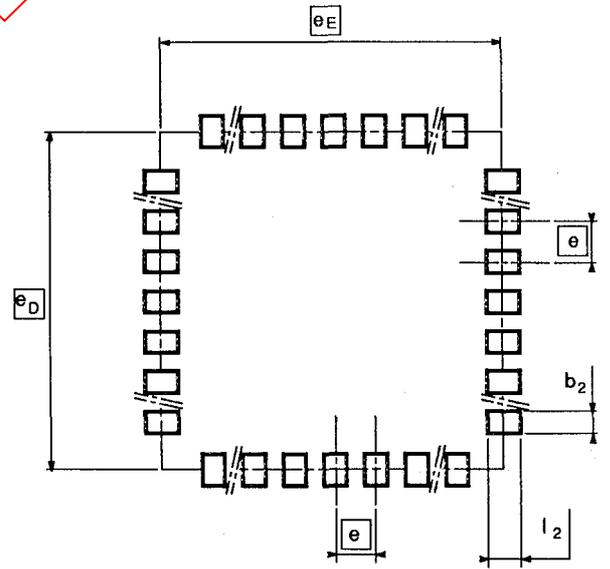
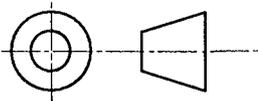


Fig 2

Gabarit des zones de contact des sorties  
Pattern of terminal land areas



Famille d'encombrements 102E  
Outline family 102E

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# Withdrawn

Group 1 - Dimensions appropriées pour le montage et l'interchangeabilité.  
 Group 1 - Dimensions appropriate to mounting and interchangeability.

Millimètres (note 6)

| Réf.           | 102E02 |         |       | 102E03 |         |       | 102E04 |         |       | Notes |
|----------------|--------|---------|-------|--------|---------|-------|--------|---------|-------|-------|
|                | min    | nom     | max   | min    | nom     | max   | min    | nom     | max   |       |
| n              | —      | 20      | —     | —      | 28      | —     | —      | 44      | —     | 1     |
| n <sub>D</sub> | —      | 5       | —     | —      | 7       | —     | —      | 11      | —     | 2     |
| n <sub>E</sub> | —      | 5       | —     | —      | 7       | —     | —      | 11      | —     | 3     |
| A              | 1,63   | —       | 2,54  | 1,63   | —       | 2,54  | 1,63   | —       | 2,54  | 4     |
| b <sub>p</sub> | 0,56   | —       | 0,71  | 0,56   | —       | 0,71  | 0,56   | —       | 0,71  |       |
| D              | —      | 8,89    | —     | —      | 11,43   | —     | —      | 16,51   | —     | 4     |
| E              | —      | 8,89    | —     | —      | 11,43   | —     | —      | 16,51   | —     |       |
| e              | —      | 1,27(*) | —     | —      | 1,27(*) | —     | —      | 1,27(*) | —     | 4     |
| L <sub>p</sub> | 1,15   | —       | 1,39  | 1,15   | —       | 1,39  | 1,15   | —       | 1,39  | 4     |
| v              | —      | —       | 0,102 | —      | —       | 0,102 | —      | —       | 0,102 | 4     |
| w              | —      | —       | 0,127 | —      | —       | 0,127 | —      | —       | 0,127 |       |
| y              | —      | —       | 0,102 | —      | —       | 0,102 | —      | —       | 0,102 |       |

Inches (note 6)

| Ref.           | 102E02 |          |        | 102E03 |          |        | 102E04 |          |        | Notes |
|----------------|--------|----------|--------|--------|----------|--------|--------|----------|--------|-------|
|                | min    | nom      | max    | min    | nom      | max    | min    | nom      | max    |       |
| n              | —      | 20       | —      | —      | 28       | —      | —      | 44       | —      | 1     |
| n <sub>D</sub> | —      | 5        | —      | —      | 7        | —      | —      | 11       | —      | 2     |
| n <sub>E</sub> | —      | 5        | —      | —      | 7        | —      | —      | 11       | —      | 3     |
| A              | 0.064  | —        | 0.100  | 0.064  | —        | 0.100  | 0.064  | —        | 0.100  | 4     |
| b <sub>p</sub> | 0.022  | —        | 0.028  | 0.022  | —        | 0.028  | 0.022  | —        | 0.028  |       |
| D              | —      | 0.350    | —      | —      | 0.0450   | —      | —      | 0.650    | —      | 4     |
| E              | —      | 0.350    | —      | —      | 0.0450   | —      | —      | 0.650    | —      |       |
| e              | —      | 0.050(*) | —      | —      | 0.050(*) | —      | —      | 0.050(*) | —      | 4     |
| L <sub>p</sub> | 0.045  | —        | 0.055  | 0.045  | —        | 0.055  | 0.045  | —        | 0.055  | 4     |
| v              | —      | —        | 0.0040 | —      | —        | 0.0040 | —      | —        | 0.0040 | 4     |
| w              | —      | —        | 0.0050 | —      | —        | 0.0050 | —      | —        | 0.0050 |       |
| y              | —      | —        | 0.0040 | —      | —        | 0.0040 | —      | —        | 0.0040 |       |

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 Outline family 102E

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Millimètres (note 6)

| Réf.           | 102E05 |         |       | 102E06 |         |       | 102E07 |         |      | Notes |
|----------------|--------|---------|-------|--------|---------|-------|--------|---------|------|-------|
|                | min    | nom     | max   | min    | nom     | max   | min    | nom     | max  |       |
| n              | —      | 52      | —     | —      | 68      | —     | —      | 84      | —    | 1     |
| n <sub>D</sub> | —      | 13      | —     | —      | 17      | —     | —      | 21      | —    | 2     |
| n <sub>E</sub> | —      | 13      | —     | —      | 17      | —     | —      | 21      | —    | 3     |
| A              | 2,08   | —       | 3,05  | 2,08   | —       | 3,05  | 2,08   | —       | 3,05 | 4     |
| b <sub>p</sub> | 0,56   | —       | 0,71  | 0,56   | —       | 0,71  | 0,56   | —       | 0,71 |       |
| D              | —      | 19,05   | —     | —      | 24,13   | —     | —      | 29,21   | —    |       |
| E              | —      | 19,05   | —     | —      | 24,13   | —     | —      | 29,21   | —    |       |
| e              | —      | 1,27(*) | —     | —      | 1,27(*) | —     | —      | 1,27(*) | —    | 4     |
| L <sub>p</sub> | 1,15   | —       | 1,39  | 1,15   | —       | 1,39  | 1,15   | —       | 1,39 | 4     |
| v              | —      | —       | 0,102 | —      | —       | 0,102 | —      | 0,102   | —    | 4     |
| w              | —      | —       | 0,127 | —      | —       | 0,127 | —      | 0,127   | —    |       |
| y              | —      | —       | 0,102 | —      | —       | 0,102 | —      | 0,102   | —    |       |

Inches (note 6)

| Ref.           | 102E05 |          |        | 102E06 |          |        | 102E07 |          |        | Notes |
|----------------|--------|----------|--------|--------|----------|--------|--------|----------|--------|-------|
|                | min    | nom      | max    | min    | nom      | max    | min    | nom      | max    |       |
| n              | —      | 52       | —      | —      | 68       | —      | —      | 84       | —      | 1     |
| n <sub>D</sub> | —      | 13       | —      | —      | 17       | —      | —      | 21       | —      | 2     |
| n <sub>E</sub> | —      | 13       | —      | —      | 17       | —      | —      | 21       | —      | 3     |
| A              | 0.082  | —        | 0.120  | 0.082  | —        | 0.120  | 0.082  | —        | 0.120  | 4     |
| b <sub>p</sub> | 0.022  | —        | 0.028  | 0.022  | —        | 0.028  | 0.022  | —        | 0.028  |       |
| D              | —      | 0.750    | —      | —      | 0.950    | —      | —      | 1.150    | —      |       |
| E              | —      | 0.750    | —      | —      | 0.950    | —      | —      | 1.150    | —      |       |
| e              | —      | 0.050(*) | —      | —      | 0.050(*) | —      | —      | 0.050(*) | —      | 4     |
| L <sub>p</sub> | 0.045  | —        | 0.055  | 0.045  | —        | 0.055  | 0.045  | —        | 0.055  | 4     |
| v              | —      | —        | 0.0040 | —      | —        | 0.0040 | —      | —        | 0.0040 | 4     |
| w              | —      | —        | 0.0050 | —      | —        | 0.0050 | —      | —        | 0.0050 |       |
| y              | —      | —        | 0.0040 | —      | —        | 0.0040 | —      | —        | 0.0040 |       |

Date : 1990

Famille d'encadrements 102E  
Outline family 102E

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# Withdrawn

Group 2 - Dimensions appropriées pour le montage et le contrôle par calibre.

Group 2 - Dimensions appropriate to mounting and gauging.

Millimètres (note 6)

| Réf. | 102E02 |         |      | 102E03 |          |      | 102E04 |          |      | Notes |
|------|--------|---------|------|--------|----------|------|--------|----------|------|-------|
|      | min    | nom     | max  | min    | nom      | max  | min    | nom      | max  |       |
| b2   | —      | —       | 0,84 | —      | —        | 0,84 | —      | —        | 0,84 | 4     |
| e    | —      | 1,27(*) | —    | —      | 1,27(*)  | —    | —      | 1,27(*)  | —    | 4     |
| eD   | —      | 7,62(*) | —    | —      | 10,16(*) | —    | —      | 15,24(*) | —    | 4     |
| eE   | —      | 7,62(*) | —    | —      | 10,16(*) | —    | —      | 15,24(*) | —    | 4     |
| l2   | —      | —       | 1,50 | —      | —        | 1,50 | —      | —        | 1,50 | 4     |

Inches (note 6)

| Ref. | 102E02 |          |       | 102E03 |          |       | 102E04 |          |       | Notes |
|------|--------|----------|-------|--------|----------|-------|--------|----------|-------|-------|
|      | min    | nom      | max   | min    | nom      | max   | min    | nom      | max   |       |
| b2   | —      | —        | 0.033 | —      | —        | 0.033 | —      | —        | 0.033 | 4     |
| e    | —      | 0.050(*) | —     | —      | 0.050(*) | —     | —      | 0.050(*) | —     | 4     |
| eD   | —      | 0.300(*) | —     | —      | 0.400(*) | —     | —      | 0.600(*) | —     | 4     |
| eE   | —      | 0.300(*) | —     | —      | 0.400(*) | —     | —      | 0.600(*) | —     | 4     |
| l2   | —      | —        | 0.059 | —      | —        | 0.059 | —      | —        | 0.059 | 4     |

Millimètres (note 6)

| Réf. | 102E05 |          |      | 102E06 |          |      | 102E07 |          |      | Notes |
|------|--------|----------|------|--------|----------|------|--------|----------|------|-------|
|      | min    | nom      | max  | min    | nom      | max  | min    | nom      | max  |       |
| b2   | —      | —        | 0,84 | —      | —        | 0,84 | —      | —        | 0,84 | 4     |
| e    | —      | 1,27(*)  | —    | —      | 1,27(*)  | —    | —      | 1,27(*)  | —    | 4     |
| eD   | —      | 17,78(*) | —    | —      | 22,86(*) | —    | —      | 27,94(*) | —    | 4     |
| eE   | —      | 17,78(*) | —    | —      | 22,86(*) | —    | —      | 27,94(*) | —    | 4     |
| l2   | —      | —        | 1,50 | —      | —        | 1,50 | —      | —        | 1,50 | 4     |

Inches (note 6)

| Ref. | 102E05 |          |       | 102E06 |          |       | 102E07 |          |       | Notes |
|------|--------|----------|-------|--------|----------|-------|--------|----------|-------|-------|
|      | min    | nom      | max   | min    | nom      | max   | min    | nom      | max   |       |
| b2   | —      | —        | 0.033 | —      | —        | 0.033 | —      | —        | 0.033 | 4     |
| e    | —      | 0.050(*) | —     | —      | 0.050(*) | —     | —      | 0.050(*) | —     | 4     |
| eD   | —      | 0.700(*) | —     | —      | 0.900(*) | —     | —      | 1.100(*) | —     | 4     |
| eE   | —      | 0.700(*) | —     | —      | 0.900(*) | —     | —      | 1.100(*) | —     | 4     |
| l2   | —      | —        | 0.059 | —      | —        | 0.059 | —      | —        | 0.059 | 4     |

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Famille d'encadrements 102E  
Outline family 102E

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Withdrawn

Groupe 3 - Dimensions appropriées pour la manipulation automatique.  
 Group 3 - Dimensions appropriate to automated handling.

Millimètres (note 6)

| Réf.           | 102E02 |     |      | 102E03 |     |       | 102E04 |     |       | Notes |
|----------------|--------|-----|------|--------|-----|-------|--------|-----|-------|-------|
|                | min    | nom | max  | min    | nom | max   | min    | nom | max   |       |
| D              | 8,69   | —   | 9,09 | 11,23  | —   | 11,68 | 16,26  | —   | 16,81 |       |
| E              | 8,69   | —   | 9,09 | 11,23  | —   | 11,68 | 16,26  | —   | 16,81 |       |
| k              | 0,77   | —   | —    | 0,77   | —   | —     | 0,77   | —   | —     |       |
| k <sub>1</sub> | —      | —   | 0,63 | —      | —   | 0,63  | —      | —   | 0,63  |       |

Inches (note 6)

| Ref.           | 102E02 |     |       | 102E03 |     |       | 102E04 |     |       | Notes |
|----------------|--------|-----|-------|--------|-----|-------|--------|-----|-------|-------|
|                | min    | nom | max   | min    | nom | max   | min    | nom | max   |       |
| D              | 0.342  | —   | 0.358 | 0.442  | —   | 0.460 | 0.640  | —   | 0.662 |       |
| E              | 0.342  | —   | 0.358 | 0.442  | —   | 0.460 | 0.640  | —   | 0.662 |       |
| k              | 0.030  | —   | —     | 0.030  | —   | —     | 0.030  | —   | —     |       |
| k <sub>1</sub> | —      | —   | 0.025 | —      | —   | 0.025 | —      | —   | 0.025 |       |

Millimètres (note 6)

| Réf.           | 102E05 |     |       | 102E06 |     |       | 102E07 |     |       | Notes |
|----------------|--------|-----|-------|--------|-----|-------|--------|-----|-------|-------|
|                | min    | nom | max   | min    | nom | max   | min    | nom | max   |       |
| D              | 18,77  | —   | 19,33 | 23,83  | —   | 24,43 | 28,83  | —   | 29,59 |       |
| E              | 18,77  | —   | 19,33 | 23,83  | —   | 24,43 | 28,83  | —   | 29,59 |       |
| k              | 0,77   | —   | —     | 0,77   | —   | —     | 0,77   | —   | —     |       |
| k <sub>1</sub> | —      | —   | 0,63  | —      | —   | 0,63  | —      | —   | 0,63  |       |

Inches (note 6)

| Ref.           | 102E05 |     |       | 102E06 |     |       | 102E07 |     |       | Notes |
|----------------|--------|-----|-------|--------|-----|-------|--------|-----|-------|-------|
|                | min    | nom | max   | min    | nom | max   | min    | nom | max   |       |
| D              | 0.739  | —   | 0.761 | 0.938  | —   | 0.962 | 1.135  | —   | 1.165 |       |
| E              | 0.739  | —   | 0.761 | 0.938  | —   | 0.962 | 1.135  | —   | 1.165 |       |
| k              | 0.030  | —   | —     | 0.030  | —   | —     | 0.030  | —   | —     |       |
| k <sub>1</sub> | —      | —   | 0.025 | —      | —   | 0.025 | —      | —   | 0.025 |       |

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Famille d'encombrements 102E  
 Outline family 102E

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# Withdrawn

Groupe 4 - Dimensions pour information seulement.

Group 4 - Dimensions for information only.

Millimètres note 6

| Réf.           | Applicable à tous les types (de 01 à 07) |     |      | Degrés<br>Degrees | notes |
|----------------|--|-----|------|-------------------|-------|
|                | min                                      | nom | max  |                   |       |
| Z <sub>D</sub> | —  | —   | 1,91 |                   | 5     |
| Z <sub>E</sub> | —  | —   | 1,91 |                   | 5     |

inches note 6

| Ref.           | Applicable to all types (from 01 to 07) |     |       | Degrés<br>Degrees | notes |
|----------------|---|-----|-------|-------------------|-------|
|                | min                                     | nom | max   |                   |       |
| Z <sub>D</sub> | —                                       | —   | 0.075 |                   | 5     |
| Z <sub>E</sub> | —                                       | —   | 0.075 |                   | 5     |

1 - n correspond au nombre total de positions de sorties.

1 - n refers to the total number of terminal positions.

2 - n<sub>D</sub> correspond au nombre de positions de sorties sur un côté du boîtier dans la direction de la dimension D.

2 - n<sub>D</sub> refers to the number of terminal positions on one side of the package in the direction of dimension D.

3 - n<sub>E</sub> correspond au nombre de positions de sorties sur un côté du boîtier dans la direction de la dimension E.

3 - n<sub>E</sub> refers to the number of terminal positions on one side of the package in the direction of dimension E.

4 - Le contrôle des dimensions et des positions des plots métallisés du boîtier est valablement réalisé lorsque l'on s'assure que ces plots s'ajustent avec le gabarit des zones de contact des sorties.

4 - Check of the dimensions and positions of package pads is validly performed when it is ensured that these pads fit with the pattern of terminal land areas.

5 - Dimension de référence donnée pour information.  
Z est compris entre e (1,27 mm) et 2 e (2,54 mm).

5 - Reference dimension given for information.  
Z is comprised between e (0.050") and 2 e (0.100").

6 - Les dimensions en millimètres sont déduites des dimensions d'origine en inches.

6 - The millimetre dimensions are derived from the original inch dimensions.

7 - Coin index de référence utilisé pour le positionnement.

7 - Reference index corner used for placement.

8 - La longueur du plot n° 1 doit être visiblement plus grande que la longueur des autres plots.

8 - Length of terminal pad number 1 shall be visibly greater than the length of other terminal pads.

(\*) Signifie position géométrique exacte.

(\*) Means true geometrical position.

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Famille d'encombrements 102E  
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Codes

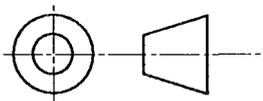
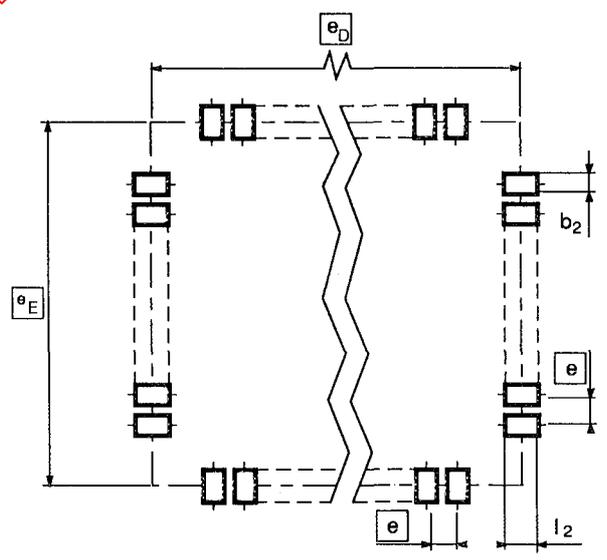
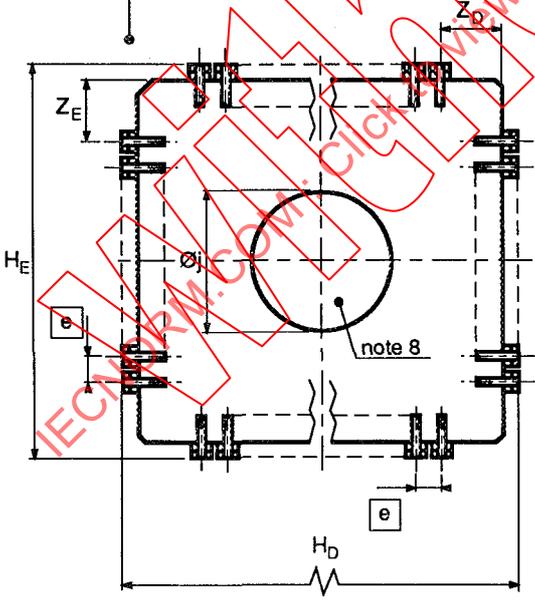
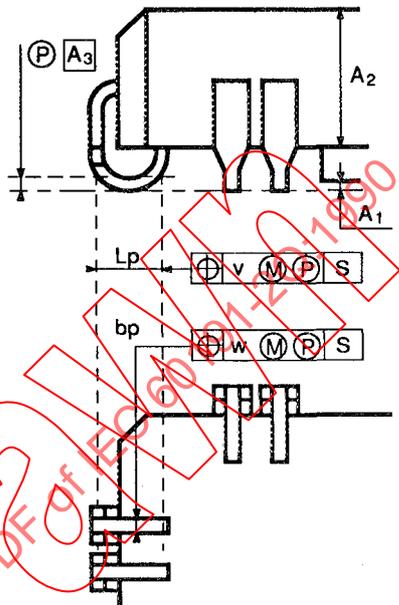
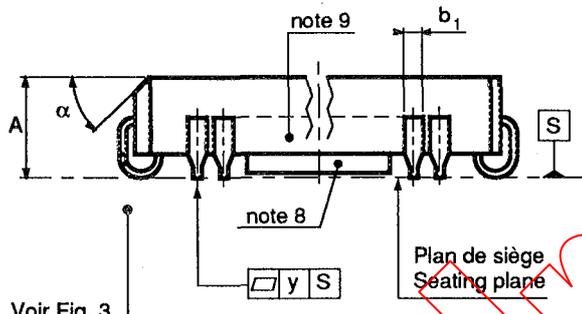
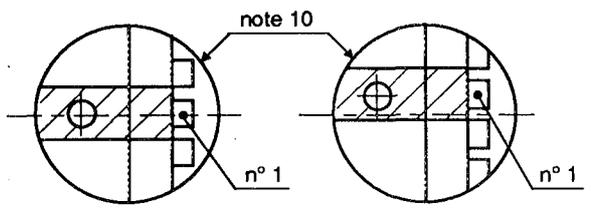
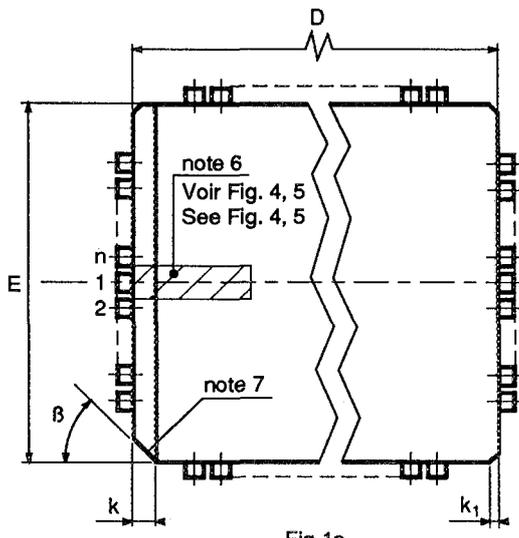
| CEI/IEC                       | 102E02        | 102E03        | 102E04        | 102E05        | 102E06        | 102E07        |
|-------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| France                        | F208A         | F208B         | F208C         | F208D         | F208E         | F208F         |
| Etats-Unis<br>USA             | MS004-CB<br>△ | MS004-CC<br>△ | MS004-CD<br>△ | MS004-CE<br>△ | MS004-CF<br>△ | MS004-CG<br>△ |
| Royaume-Uni<br>United Kingdom | SO-208A       | SO-208B       | SO-208C       | SO-208D       | SO-208E       | SO-208F       |
| Allemagne<br>Germany          | 102E02        | 102E03        | 102E04        | 102E05        | 102E06        | 102E07        |
| Pays-Bas<br>Netherlands       |               |               |               |               |               |               |
| Canada                        |               |               |               |               |               |               |

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# Withdrawn



Famille d'encombremments 112E  
Outline family 112E

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# Withdrawn

Group 1 - Dimensions appropriées pour le montage et l'interchangeabilité.  
 Group 1 - Dimensions appropriate to mounting and interchangeability.

Millimètres note 5

| Réf.           | 112E01 |         |       | 112E02 |         |       | 112E03 |         |       | Degrés<br>Degrees | Notes |
|----------------|--------|---------|-------|--------|---------|-------|--------|---------|-------|-------------------|-------|
|                | min    | nom     | max   | min    | nom     | max   | min    | nom     | max   |                   |       |
| n              | —      | 16      | —     | —      | 16      | —     | —      | 20      | —     |                   | 1     |
| n <sub>D</sub> | —      | 4       | —     | —      | 4       | —     | —      | 5       | —     |                   | 2     |
| n <sub>E</sub> | —      | 4       | —     | —      | 4       | —     | —      | 5       | —     |                   | 3     |
| A              | [3,2]  | —       | 3,7   | [4,1]  | —       | 4,6   | [3,2]  | —       | 3,7   |                   |       |
| A <sub>1</sub> | 0,1    | —       | 0,5   | 0,1    | —       | 0,5   | 0,1    | —       | 0,5   |                   |       |
| A <sub>2</sub> | 2,3    | —       | [2,8] | 3,1    | —       | [3,9] | 2,3    | —       | [2,8] |                   |       |
| A <sub>3</sub> | —      | 0,3(*)  | —     | —      | 0,3(*)  | —     | —      | 0,3(*)  | —     |                   |       |
| b <sub>p</sub> | 0,30   | —       | 0,55  | 0,30   | —       | 0,55  | 0,30   | —       | 0,55  |                   | 4     |
| b <sub>1</sub> | 0,66   | —       | 0,81  | 0,66   | —       | 0,81  | 0,66   | —       | 0,81  |                   |       |
| D              | —      | 7,8     | —     | —      | 7,8     | —     | —      | 9,0     | —     |                   |       |
| e              | —      | 1,27(*) | —     | —      | 1,27(*) | —     | —      | 1,27(*) | —     |                   | 4     |
| E              | —      | 7,8     | —     | —      | 7,8     | —     | —      | 9,0     | —     |                   |       |
| H <sub>D</sub> | 8,5    | —       | 8,8   | 8,5    | —       | 8,8   | 9,7    | —       | 10,0  |                   |       |
| H <sub>E</sub> | 8,5    | —       | 8,8   | 8,5    | —       | 8,8   | 9,7    | —       | 10,0  |                   |       |
| Øj             | 2,0    | —       | 3,0   | 2,0    | —       | 3,0   | 2,5    | —       | 3,5   |                   |       |
| L <sub>p</sub> | 1,0    | —       | 1,2   | 1,0    | —       | 1,2   | 1,0    | —       | 1,2   |                   | 4     |
| v              | —      | —       | 0,20  | —      | —       | 0,20  | —      | —       | 0,20  |                   |       |
| w              | —      | —       | 0,20  | —      | —       | 0,20  | —      | —       | 0,20  |                   |       |
| y              | —      | —       | 0,10  | —      | —       | 0,10  | —      | —       | 0,10  |                   |       |

Inches note 5

| Ref.           | 112E01  |          |         | 112E02  |          |         | 112E03  |          |         | Degrés<br>Degrees | Notes |
|----------------|---------|----------|---------|---------|----------|---------|---------|----------|---------|-------------------|-------|
|                | min     | nom      | max     | min     | nom      | max     | min     | nom      | max     |                   |       |
| n              | —       | 16       | —       | —       | 16       | —       | —       | 20       | —       |                   | 1     |
| n <sub>D</sub> | —       | 4        | —       | —       | 4        | —       | —       | 5        | —       |                   | 2     |
| n <sub>E</sub> | —       | 4        | —       | —       | 4        | —       | —       | 5        | —       |                   | 3     |
| A              | [0.126] | —        | 0.146   | [0.162] | —        | 0.181   | [0.126] | —        | 0.146   |                   |       |
| A <sub>1</sub> | 0.0039  | —        | 0.0197  | 0.0039  | —        | 0.0197  | 0.0039  | —        | 0.0197  |                   |       |
| A <sub>2</sub> | 0.091   | —        | [0.110] | 0.122   | —        | [0.154] | 0.091   | —        | [0.110] |                   |       |
| A <sub>3</sub> | —       | 0.012(*) | —       | —       | 0.012(*) | —       | —       | 0.012(*) | —       |                   |       |
| b <sub>p</sub> | 0.012   | —        | 0.022   | 0.012   | —        | 0.022   | 0.012   | —        | 0.022   |                   | 4     |
| b <sub>1</sub> | 0.026   | —        | 0.032   | 0.026   | —        | 0.032   | 0.026   | —        | 0.032   |                   |       |
| D              | —       | 0.307    | —       | —       | 0.307    | —       | —       | 0.354    | —       |                   |       |
| e              | —       | 0.050(*) | —       | —       | 0.050(*) | —       | —       | 0.050(*) | —       |                   | 4     |
| E              | —       | 0.307    | —       | —       | 0.307    | —       | —       | 0.354    | —       |                   |       |
| H <sub>D</sub> | 0.335   | —        | 0.346   | 0.335   | —        | 0.346   | 0.382   | —        | 0.394   |                   |       |
| H <sub>E</sub> | 0.335   | —        | 0.346   | 0.335   | —        | 0.346   | 0.382   | —        | 0.394   |                   |       |
| Øj             | 0.079   | —        | 0.118   | 0.079   | —        | 0.118   | 0.098   | —        | 0.138   |                   |       |
| L <sub>p</sub> | 0.04    | —        | 0.05    | 0.04    | —        | 0.05    | 0.04    | —        | 0.05    |                   | 4     |
| v              | —       | —        | 0.008   | —       | —        | 0.008   | —       | —        | 0.008   |                   |       |
| w              | —       | —        | 0.008   | —       | —        | 0.008   | —       | —        | 0.008   |                   |       |
| y              | —       | —        | 0.004   | —       | —        | 0.004   | —       | —        | 0.004   |                   |       |

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 Outline family 112E

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# Withdrawn

Millimètres note 5

| Réf.           | 112E04 |         |       | 112E05 |         |       | 112E06 |         |       | Degrés<br>Degrees | Notes |
|----------------|--------|---------|-------|--------|---------|-------|--------|---------|-------|-------------------|-------|
|                | min    | nom     | max   | min    | nom     | max   | min    | nom     | max   |                   |       |
| n              | —      | 20      | —     | —      | 24      | —     | —      | 24      | —     |                   | 1     |
| n <sub>D</sub> | —      | 5       | —     | —      | 6       | —     | —      | 6       | —     |                   | 2     |
| n <sub>E</sub> | —      | 5       | —     | —      | 6       | —     | —      | 6       | —     |                   | 3     |
| A              | [4,1]  | —       | 4,6   | [3,2]  | —       | 3,7   | [4,1]  | —       | 4,6   |                   | 4     |
| A <sub>1</sub> | 0,1    | —       | 0,5   | 0,1    | —       | 0,5   | 0,1    | —       | 0,5   |                   |       |
| A <sub>2</sub> | 3,1    | —       | [3,9] | 2,3    | —       | [2,8] | 3,1    | —       | [3,9] |                   |       |
| A <sub>3</sub> | —      | 0,3(*)  | —     | —      | 0,3(*)  | —     | —      | 0,3(*)  | —     |                   |       |
| b <sub>p</sub> | 0,30   | —       | 0,55  | 0,30   | —       | 0,55  | 0,30   | —       | 0,55  |                   | 4     |
| b <sub>1</sub> | 0,66   | —       | 0,81  | 0,66   | —       | 0,81  | 0,66   | —       | 0,81  |                   |       |
| D              | —      | 9,0     | —     | —      | 9,6     | —     | —      | 9,6     | —     |                   | 4     |
| e              | —      | 1,27(*) | —     | —      | 1,27(*) | —     | —      | 1,27(*) | —     |                   |       |
| E              | —      | 9,0     | —     | —      | 9,6     | —     | —      | 9,6     | —     |                   | 4     |
| H <sub>D</sub> | 9,7    | —       | 10,0  | 10,1   | —       | 10,4  | 10,1   | —       | 10,4  |                   |       |
| H <sub>E</sub> | 9,7    | —       | 10,0  | 10,1   | —       | 10,4  | 10,1   | —       | 10,4  |                   |       |
| Ø <sub>j</sub> | 2,5    | —       | 3,5   | 3,0    | —       | 4,0   | 3,0    | —       | 4,0   |                   |       |
| L <sub>p</sub> | 1,0    | —       | 1,2   | 1,0    | —       | 1,2   | 1,0    | —       | 1,2   |                   |       |
| v              | —      | —       | 0,20  | —      | —       | 0,20  | —      | —       | 0,20  |                   |       |
| w              | —      | —       | 0,20  | —      | —       | 0,20  | —      | —       | 0,20  |                   |       |
| y              | —      | —       | 0,10  | —      | —       | 0,10  | —      | —       | 0,10  |                   |       |

Inches note 5

| Ref.           | 112E04  |          |         | 112E05  |          |         | 112E06  |          |         | Degrés<br>Degrees | Notes |
|----------------|---------|----------|---------|---------|----------|---------|---------|----------|---------|-------------------|-------|
|                | min     | nom      | max     | min     | nom      | max     | min     | nom      | max     |                   |       |
| n              | —       | 20       | —       | —       | 24       | —       | —       | 24       | —       |                   | 1     |
| n <sub>D</sub> | —       | 5        | —       | —       | 6        | —       | —       | 6        | —       |                   | 2     |
| n <sub>E</sub> | —       | 5        | —       | —       | 6        | —       | —       | 6        | —       |                   | 3     |
| A              | [0.162] | —        | 0.181   | [0.126] | —        | 0.146   | [0.162] | —        | 0.181   |                   | 4     |
| A <sub>1</sub> | 0.0039  | —        | 0.0197  | 0.0039  | —        | 0.0197  | 0.0039  | —        | 0.0197  |                   |       |
| A <sub>2</sub> | 0.122   | —        | [0.154] | 0.091   | —        | [0.110] | 0.122   | —        | [0.154] |                   |       |
| A <sub>3</sub> | —       | 0.012(*) | —       | —       | 0.012(*) | —       | —       | 0.012(*) | —       |                   |       |
| b <sub>p</sub> | 0.012   | —        | 0.022   | 0.012   | —        | 0.022   | 0.012   | —        | 0.022   |                   | 4     |
| b <sub>1</sub> | 0.026   | —        | 0.032   | 0.026   | —        | 0.032   | 0.026   | —        | 0.032   |                   |       |
| D              | —       | 0.354    | —       | —       | 0.378    | —       | —       | 0.378    | —       |                   | 4     |
| e              | —       | 0.050(*) | —       | —       | 0.050(*) | —       | —       | 0.050(*) | —       |                   |       |
| E              | —       | 0.354    | —       | —       | 0.378    | —       | —       | 0.378    | —       |                   | 4     |
| H <sub>D</sub> | 0.382   | —        | 0.394   | 0.398   | —        | 0.409   | 0.398   | —        | 0.409   |                   |       |
| H <sub>E</sub> | 0.382   | —        | 0.394   | 0.398   | —        | 0.409   | 0.398   | —        | 0.409   |                   |       |
| Ø <sub>j</sub> | 0.098   | —        | 0.138   | 0.118   | —        | 0.157   | 0.118   | —        | 0.157   |                   |       |
| L <sub>p</sub> | 0.04    | —        | 0.05    | 0.04    | —        | 0.05    | 0.04    | —        | 0.05    |                   |       |
| v              | —       | 10       | 0.008   | —       | 12       | 0.008   | —       | 12       | 0.008   |                   |       |
| w              | —       | —        | 0.008   | —       | —        | 0.008   | —       | —        | 0.008   |                   |       |
| y              | —       | —        | 0.004   | —       | —        | 0.004   | —       | —        | 0.004   |                   |       |

Famille d'encombrements 112E  
Outline family 112E

Date : 1990

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# Withdrawn

Millimètres note 5

| Réf.           | 112E07 |         |       | 112E08 |         |       | 112E09 |         |       | Degrés<br>Degrees | Notes |
|----------------|--------|---------|-------|--------|---------|-------|--------|---------|-------|-------------------|-------|
|                | min    | nom     | max   | min    | nom     | max   | min    | nom     | max   |                   |       |
| n              | —      | 28      | —     | —      | 28      | —     | —      | 44      | —     |                   | 1     |
| n <sub>D</sub> | —      | 7       | —     | —      | 7       | —     | —      | 11      | —     |                   | 2     |
| n <sub>E</sub> | —      | 7       | —     | —      | 7       | —     | —      | 11      | —     |                   | 3     |
| A              | [3,2]  | —       | 3,7   | [4,1]  | —       | 4,6   | [3,2]  | —       | 3,7   |                   | 4     |
| A <sub>1</sub> | 0,1    | —       | 0,5   | 0,1    | —       | 0,5   | 0,1    | —       | 0,5   |                   |       |
| A <sub>2</sub> | 2,3    | —       | [2,8] | 3,1    | —       | [3,9] | 2,3    | —       | [2,8] |                   |       |
| A <sub>3</sub> | —      | 0,3(*)  | —     | —      | 0,3(*)  | —     | —      | 0,3(*)  | —     |                   |       |
| b <sub>p</sub> | 0,30   | —       | 0,55  | 0,30   | —       | 0,55  | 0,30   | —       | 0,55  |                   | 4     |
| b <sub>1</sub> | 0,66   | —       | 0,81  | 0,66   | —       | 0,81  | 0,66   | —       | 0,81  |                   |       |
| D              | —      | 11,5    | —     | —      | 11,5    | —     | —      | 16,6    | —     |                   | 4     |
| e              | —      | 1,27(*) | —     | —      | 1,27(*) | —     | —      | 1,27(*) | —     |                   |       |
| E              | —      | 11,5    | —     | —      | 11,5    | —     | —      | 16,6    | —     |                   | 4     |
| H <sub>D</sub> | 12,2   | —       | 12,5  | 12,2   | —       | 12,5  | 17,4   | —       | 17,7  |                   |       |
| H <sub>E</sub> | 12,2   | —       | 12,5  | 12,2   | —       | 12,5  | 17,4   | —       | 17,7  |                   |       |
| Øj             | 4,2    | —       | 5,2   | 4,2    | —       | 5,2   | 9,2    | —       | 10,2  |                   |       |
| L <sub>p</sub> | 1,0    | —       | 1,2   | 1,0    | —       | 1,2   | 1,0    | —       | 1,2   |                   |       |
| v              | —      | —       | 0,20  | —      | —       | 0,20  | —      | —       | 0,20  |                   |       |
| w              | —      | —       | 0,20  | —      | —       | 0,20  | —      | —       | 0,20  |                   |       |
| y              | —      | —       | 0,10  | —      | —       | 0,10  | —      | —       | 0,10  |                   |       |

Inches note 5

| Ref.           | 112E07  |          |         | 112E08  |          |         | 112E09  |          |         | Degrés<br>Degrees | Notes |
|----------------|---------|----------|---------|---------|----------|---------|---------|----------|---------|-------------------|-------|
|                | min     | nom      | max     | min     | nom      | max     | min     | nom      | max     |                   |       |
| n              | —       | 28       | —       | —       | 28       | —       | —       | 44       | —       |                   | 1     |
| n <sub>D</sub> | —       | 7        | —       | —       | 7        | —       | —       | 11       | —       |                   | 2     |
| n <sub>E</sub> | —       | 7        | —       | —       | 7        | —       | —       | 11       | —       |                   | 3     |
| A              | [0.126] | —        | 0.146   | [0.162] | —        | 0.0181  | [0.126] | —        | 0.146   |                   | 4     |
| A <sub>1</sub> | 0.0039  | —        | 0.0197  | 0.0039  | —        | 0.0197  | 0.0039  | —        | 0.0197  |                   |       |
| A <sub>2</sub> | 0.091   | —        | [0.110] | 0.122   | —        | [0.154] | 0.091   | —        | [0.110] |                   |       |
| A <sub>3</sub> | —       | 0.012(*) | —       | —       | 0.012(*) | —       | —       | 0.012(*) | —       |                   |       |
| b <sub>p</sub> | 0.012   | —        | 0.022   | 0.012   | —        | 0.022   | 0.012   | —        | 0.022   |                   | 4     |
| b <sub>1</sub> | 0.026   | —        | 0.032   | 0.026   | —        | 0.032   | 0.026   | —        | 0.032   |                   |       |
| D              | —       | 0.453    | —       | —       | 0.453    | —       | —       | 0.654    | —       |                   | 4     |
| e              | —       | 0.050(*) | —       | —       | 0.050    | —       | —       | 0.050(*) | —       |                   |       |
| E              | —       | 0.453    | —       | —       | 0.453    | —       | —       | 0.654    | —       |                   | 4     |
| H <sub>D</sub> | 0.480   | —        | 0.492   | 0.480   | —        | 0.492   | 0.685   | —        | 0.697   |                   |       |
| H <sub>E</sub> | 0.480   | —        | 0.492   | 0.480   | —        | 0.492   | 0.685   | —        | 0.697   |                   |       |
| Øj             | 0.165   | —        | 0.205   | 0.165   | —        | 0.205   | 0.362   | —        | 0.402   |                   |       |
| L <sub>p</sub> | 0.04    | —        | 0.05    | 0.04    | —        | 0.05    | 0.04    | —        | 0.05    |                   |       |
| v <sub>D</sub> | —       | —        | 0.008   | —       | —        | 0.008   | —       | —        | 0.008   |                   |       |
| w <sub>E</sub> | —       | —        | 0.008   | —       | —        | 0.008   | —       | —        | 0.008   |                   |       |
| y              | —       | —        | 0.004   | —       | —        | 0.004   | —       | —        | 0.004   |                   |       |

Famille d'encombrements 112E  
Outline family 112E

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# Withdrawn

Millimètres note 5

| Réf.           | 112E10 |         |       | 112E11 |         |       | 112E12 |         |       | Degrés<br>Degrees | Notes |
|----------------|--------|---------|-------|--------|---------|-------|--------|---------|-------|-------------------|-------|
|                | min    | nom     | max   | min    | nom     | max   | min    | nom     | max   |                   |       |
| n              | —      | 44      | —     | —      | 52      | —     | —      | 68      | —     |                   | 1     |
| n <sub>D</sub> | —      | 11      | —     | —      | 13      | —     | —      | 17      | —     |                   | 2     |
| n <sub>E</sub> | —      | 11      | —     | —      | 13      | —     | —      | 17      | —     |                   | 3     |
| A              | [4,1]  | —       | 4,6   | [4,1]  | —       | 5,1   | [4,1]  | —       | 5,1   |                   |       |
| A <sub>1</sub> | 0,1    | —       | 0,5   | 0,1    | —       | 0,5   | 0,1    | —       | 0,5   |                   |       |
| A <sub>2</sub> | 3,1    | —       | [3,9] | 3,1    | —       | [3,9] | 3,1    | —       | [3,9] |                   |       |
| A <sub>3</sub> | —      | 0,3(*)  | —     | —      | 0,3(*)  | —     | —      | 0,3(*)  | —     |                   |       |
| b <sub>p</sub> | 0,33   | —       | 0,53  | 0,30   | —       | 0,55  | 0,33   | —       | 0,53  |                   | 4     |
| b <sub>1</sub> | 0,66   | —       | 0,81  | 0,66   | —       | 0,81  | 0,66   | —       | 0,81  |                   |       |
| D              | —      | 16,6    | —     | —      | 19,1    | —     | —      | 24,2    | —     |                   |       |
| e              | —      | 1,27(*) | —     | —      | 1,27(*) | —     | —      | 1,27(*) | —     |                   | 4     |
| E              | —      | 16,6    | —     | —      | 19,1    | —     | —      | 24,2    | —     |                   |       |
| H <sub>D</sub> | 17,4   | —       | 17,7  | 19,9   | —       | 20,2  | 25,0   | —       | 25,3  |                   |       |
| H <sub>E</sub> | 17,4   | —       | 17,7  | 19,9   | —       | 20,2  | 25,0   | —       | 25,3  |                   |       |
| Ø <sub>j</sub> | 9,2    | —       | 10,2  | 12,0   | —       | 13,0  | 16,9   | —       | 17,9  |                   |       |
| L <sub>p</sub> | 1,0    | —       | 1,2   | 1,0    | —       | 1,2   | 1,0    | —       | 1,2   |                   | 4     |
| v              | —      | —       | 0,20  | —      | —       | 0,20  | —      | —       | 0,20  |                   |       |
| w              | —      | —       | 0,20  | —      | —       | 0,20  | —      | —       | 0,20  |                   |       |
| y              | —      | —       | 0,10  | —      | —       | 0,10  | —      | —       | 0,10  |                   |       |

Inches note 5

| Ref.           | 112E10  |          |         | 112E11  |          |         | 112E12  |          |         | Degrés<br>Degrees | Notes |
|----------------|---------|----------|---------|---------|----------|---------|---------|----------|---------|-------------------|-------|
|                | min     | nom      | max     | min     | nom      | max     | min     | nom      | max     |                   |       |
| n              | —       | 44       | —       | —       | 52       | —       | —       | 68       | —       |                   | 1     |
| n <sub>D</sub> | —       | 11       | —       | —       | 13       | —       | —       | 17       | —       |                   | 2     |
| n <sub>E</sub> | —       | 11       | —       | —       | 13       | —       | —       | 17       | —       |                   | 3     |
| A              | [0.162] | —        | 0.181   | [0.162] | —        | 0.200   | [0.162] | —        | 0.200   |                   |       |
| A <sub>1</sub> | 0.0039  | —        | 0.0197  | 0.0039  | —        | 0.0197  | 0.0039  | —        | 0.0197  |                   |       |
| A <sub>2</sub> | 0.122   | —        | [0.154] | 0.122   | —        | [0.154] | 0.122   | —        | [0.154] |                   |       |
| A <sub>3</sub> | —       | 0.012(*) | —       | —       | 0.012(*) | —       | —       | 0.012(*) | —       |                   |       |
| b <sub>p</sub> | 0.013   | —        | 0.021   | 0.012   | —        | 0.022   | 0.013   | —        | 0.021   |                   | 4     |
| b <sub>1</sub> | 0.026   | —        | 0.032   | 0.026   | —        | 0.032   | 0.026   | —        | 0.032   |                   |       |
| D              | —       | 0.654    | —       | —       | 0.752    | —       | —       | 0.953    | —       |                   |       |
| e              | —       | 0.050(*) | —       | —       | 0.050(*) | —       | —       | 0.050(*) | —       |                   | 4     |
| E              | —       | 0.654    | —       | —       | 0.752    | —       | —       | 0.953    | —       |                   |       |
| H <sub>D</sub> | 0.685   | —        | 0.697   | 0.783   | —        | 0.795   | 0.984   | —        | 0.996   |                   |       |
| H <sub>E</sub> | 0.685   | —        | 0.697   | 0.783   | —        | 0.795   | 0.984   | —        | 0.996   |                   |       |
| Ø <sub>j</sub> | 0.362   | —        | 0.402   | 0.472   | —        | 0.512   | 0.665   | —        | 0.705   |                   |       |
| L <sub>p</sub> | 0.04    | —        | 0.05    | 0.04    | —        | 0.05    | 0.04    | —        | 0.05    |                   | 4     |
| v              | —       | —        | 0.008   | —       | —        | 0.008   | —       | —        | 0.008   |                   |       |
| w              | —       | —        | 0.008   | —       | —        | 0.008   | —       | —        | 0.008   |                   |       |
| y              | —       | —        | 0.004   | —       | —        | 0.004   | —       | —        | 0.004   |                   |       |

Famille d'encombrements 112E  
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# Withdrawn

Millimètres

note 5

| Réf.           | 112E13 |         |       | 112E14 |         |       | 112E15 |         |       | Degrés<br>Degrees | Notes |
|----------------|--------|---------|-------|--------|---------|-------|--------|---------|-------|-------------------|-------|
|                | min    | nom     | max   | min    | nom     | max   | min    | nom     | max   |                   |       |
| n              | —      | 84      | —     | —      | 100     | —     | —      | 124     | —     |                   | 1     |
| n <sub>D</sub> | —      | 21      | —     | —      | 25      | —     | —      | 31      | —     |                   | 2     |
| n <sub>E</sub> | —      | 21      | —     | —      | 25      | —     | —      | 31      | —     |                   | 3     |
| A              | [4,1]  | —       | 5,1   | [4,1]  | —       | 5,1   | [4,1]  | —       | 5,1   |                   |       |
| A <sub>1</sub> | 0,1    | —       | 0,5   | 0,1    | —       | 0,5   | 0,1    | —       | 0,5   |                   |       |
| A <sub>2</sub> | 3,1    | —       | [3,9] | 3,1    | —       | [3,9] | 3,1    | —       | [3,9] |                   |       |
| A <sub>3</sub> | —      | 0,3(*)  | —     | —      | 0,3(*)  | —     | —      | 0,3(*)  | —     |                   |       |
| b <sub>p</sub> | 0,33   | —       | 0,53  | 0,30   | —       | 0,55  | 0,30   | —       | 0,55  |                   | 4     |
| b <sub>1</sub> | 0,66   | —       | 0,81  | 0,66   | —       | 0,81  | 0,66   | —       | 0,81  |                   |       |
| D              | —      | 39,3    | —     | —      | 34,4    | —     | —      | 42,0    | —     |                   |       |
| e              | —      | 1,27(*) | —     | —      | 1,27(*) | —     | —      | 1,27(*) | —     |                   | 4     |
| E              | —      | 29,3    | —     | —      | 34,4    | —     | —      | 42,0    | —     |                   |       |
| H <sub>D</sub> | 30,1   | —       | 30,4  | 35,2   | —       | 35,5  | 42,8   | —       | 43,1  |                   |       |
| H <sub>E</sub> | 30,1   | —       | 30,4  | 35,2   | —       | 35,5  | 42,8   | —       | 43,1  |                   |       |
| Øj             | 21,9   | —       | 22,9  | 21,9   | —       | 28,0  | 21,9   | —       | 35,6  |                   |       |
| L <sub>p</sub> | 1,0    | —       | 1,2   | 1,0    | —       | 1,2   | 1,0    | —       | 1,2   |                   | 4     |
| v              | —      | —       | 0,20  | —      | —       | 0,20  | —      | —       | 0,20  |                   |       |
| w              | —      | —       | 0,20  | —      | —       | 0,20  | —      | —       | 0,20  |                   |       |
| y              | —      | —       | 0,10  | —      | —       | 0,10  | —      | —       | 0,10  |                   |       |

Inches

note 5

| Ref.           | 112E13  |          |         | 112E14  |          |         | 112E15  |          |         | Degrés<br>Degrees | Notes |
|----------------|---------|----------|---------|---------|----------|---------|---------|----------|---------|-------------------|-------|
|                | min     | nom      | max     | min     | nom      | max     | min     | nom      | max     |                   |       |
| n              | —       | 84       | —       | —       | 100      | —       | —       | 124      | —       |                   | 1     |
| n <sub>D</sub> | —       | 21       | —       | —       | 25       | —       | —       | 31       | —       |                   | 2     |
| n <sub>E</sub> | —       | 21       | —       | —       | 25       | —       | —       | 31       | —       |                   | 3     |
| A              | [0.162] | —        | 0.200   | [0.162] | —        | 0.200   | [0.162] | —        | 0.200   |                   |       |
| A <sub>1</sub> | 0.0039  | —        | 0.0197  | 0.0039  | —        | 0.0197  | 0.0039  | —        | 0.0197  |                   |       |
| A <sub>2</sub> | 0.122   | —        | [0.154] | 0.122   | —        | [0.154] | 0.122   | —        | [0.154] |                   |       |
| A <sub>3</sub> | —       | 0.012(*) | —       | —       | 0.012(*) | —       | —       | 0.012(*) | —       |                   |       |
| b <sub>p</sub> | 0.013   | —        | 0.021   | 0.012   | —        | 0.022   | 0.012   | —        | 0.022   |                   | 4     |
| b <sub>1</sub> | 0.026   | —        | 0.032   | 0.026   | —        | 0.032   | 0.026   | —        | 0.032   |                   |       |
| D              | —       | 1.154    | —       | —       | 1.354    | —       | —       | 1.654    | —       |                   |       |
| e              | —       | 0.050(*) | —       | —       | 0.050(*) | —       | —       | 0.050(*) | —       |                   | 4     |
| E              | —       | 1.154    | —       | —       | 1.354    | —       | —       | 1.654    | —       |                   |       |
| H <sub>D</sub> | 1.185   | —        | 1.197   | 1.386   | —        | 1.398   | 1.685   | —        | 1.697   |                   |       |
| H <sub>E</sub> | 1.185   | —        | 1.197   | 1.386   | —        | 1.398   | 1.685   | —        | 1.697   |                   |       |
| Øj             | 0.862   | —        | 0.902   | 0.862   | —        | 1.102   | 0.862   | —        | 1.402   |                   |       |
| L <sub>p</sub> | 0.04    | —        | 0.05    | 0.04    | —        | 0.05    | 0.04    | —        | 0.05    |                   | 4     |
| v              | —       | —        | 0.008   | —       | —        | 0.008   | —       | —        | 0.008   |                   |       |
| w              | —       | —        | 0.008   | —       | —        | 0.008   | —       | —        | 0.008   |                   |       |
| y              | —       | —        | 0.004   | —       | —        | 0.004   | —       | —        | 0.004   |                   |       |

Famille d'encombrements 112E  
Outline family 112E

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# Withdrawn

Groupe 2 - Dimensions appropriées pour le montage et le contrôle par calibre.  
 Group 2 - Dimensions appropriate to mounting and gauging.

Millimètres note 5

| Réf. | 112E01 |         |      | 112E02 |         |      | 112E03 |         |      | Degrés<br>Degrees | Notes |
|------|--------|---------|------|--------|---------|------|--------|---------|------|-------------------|-------|
|      | min    | nom     | max  | min    | nom     | max  | min    | nom     | max  |                   |       |
| b2   | —      | —       | 0,75 | —      | —       | 0,75 | —      | —       | 0,75 |                   | 4     |
| e    | —      | 1,27(*) | —    | —      | 1,27(*) | —    | —      | 1,27(*) | —    |                   | 4     |
| eD   | —      | 7,20(*) | —    | —      | 7,20(*) | —    | —      | 8,13(*) | —    |                   | 4     |
| eE   | —      | 7,20(*) | —    | —      | 7,20(*) | —    | —      | 8,13(*) | —    |                   | 4     |
| l2   | —      | —       | 1,4  | —      | —       | 1,4  | —      | —       | 1,4  |                   | 4     |

Inches note 5

| Ref. | 112E01 |          |       | 112E02 |          |       | 112E03 |          |       | Degrés<br>Degrees | Notes |
|------|--------|----------|-------|--------|----------|-------|--------|----------|-------|-------------------|-------|
|      | min    | nom      | max   | min    | nom      | max   | min    | nom      | max   |                   |       |
| b2   | —      | —        | 0.029 | —      | —        | 0.029 | —      | —        | 0.029 |                   | 4     |
| e    | —      | 0.050(*) | —     | —      | 0.050(*) | —     | —      | 0.050(*) | —     |                   | 4     |
| eD   | —      | 0.283(*) | —     | —      | 0.283(*) | —     | —      | 0.320(*) | —     |                   | 4     |
| eE   | —      | 0.283(*) | —     | —      | 0.283(*) | —     | —      | 0.320(*) | —     |                   | 4     |
| l2   | —      | —        | 0.055 | —      | —        | 0.055 | —      | —        | 0.055 |                   | 4     |

Millimètres note 5

| Réf. | 112E04 |         |      | 112E05 |         |      | 112E06 |         |      | Degrés<br>Degrees | Notes |
|------|--------|---------|------|--------|---------|------|--------|---------|------|-------------------|-------|
|      | min    | nom     | max  | min    | nom     | max  | min    | nom     | max  |                   |       |
| b2   | —      | —       | 0,75 | —      | —       | 0,75 | —      | —       | 0,75 |                   | 4     |
| e    | —      | 1,27(*) | —    | —      | 1,27(*) | —    | —      | 1,27(*) | —    |                   | 4     |
| eD   | —      | 8,13(*) | —    | —      | 9,10(*) | —    | —      | 9,10(*) | —    |                   | 4     |
| eE   | —      | 8,13(*) | —    | —      | 9,10(*) | —    | —      | 9,10(*) | —    |                   | 4     |
| l2   | —      | —       | 1,4  | —      | —       | 1,4  | —      | —       | 1,4  |                   | 4     |

Inches note 5

| Ref. | 112E04 |          |       | 112E05 |          |       | 112E06 |          |       | Degrés<br>Degrees | Notes |
|------|--------|----------|-------|--------|----------|-------|--------|----------|-------|-------------------|-------|
|      | min    | nom      | max   | min    | nom      | max   | min    | nom      | max   |                   |       |
| b2   | —      | —        | 0.029 | —      | —        | 0.029 | —      | —        | 0.029 |                   | 4     |
| e    | —      | 0.050(*) | —     | —      | 0.050(*) | —     | —      | 0.050(*) | —     |                   | 4     |
| eD   | —      | 0.320(*) | —     | —      | 0.358(*) | —     | —      | 0.358(*) | —     |                   | 4     |
| eE   | —      | 0.320(*) | —     | —      | 0.358(*) | —     | —      | 0.358(*) | —     |                   | 4     |
| l2   | —      | —        | 0.055 | —      | —        | 0.055 | —      | —        | 0.055 |                   | 4     |

Famille d'encombrements 112E  
 Outline family 112E

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Millimètres note 5

| Réf. | 112E07 |          |      | 112E08 |          |      | 112E09 |          |      | Degrés<br>Degrees | Notes |
|------|--------|----------|------|--------|----------|------|--------|----------|------|-------------------|-------|
|      | min    | nom      | max  | min    | nom      | max  | min    | nom      | max  |                   |       |
| b2   | —      | —        | 0,75 | —      | —        | 0,75 | —      | —        | 0,75 |                   | 4     |
| e    | —      | 1,27(*)  | —    | —      | 1,27(*)  | —    | —      | 1,27(*)  | —    |                   | 4     |
| eD   | —      | 10,67(*) | —    | —      | 10,67(*) | —    | —      | 15,75(*) | —    |                   | 4     |
| eE   | —      | 10,67(*) | —    | —      | 10,67(*) | —    | —      | 15,75(*) | —    |                   | 4     |
| l2   | —      | —        | 1,4  | —      | —        | 1,4  | —      | —        | 1,4  |                   | 4     |

Inches note 5

| Ref. | 112E07 |          |       | 112E08 |          |       | 112E09 |          |       | Degrés<br>Degrees | Notes |
|------|--------|----------|-------|--------|----------|-------|--------|----------|-------|-------------------|-------|
|      | min    | nom      | max   | min    | nom      | max   | min    | nom      | max   |                   |       |
| b2   | —      | —        | 0.029 | —      | —        | 0.029 | —      | —        | 0.029 |                   | 4     |
| e    | —      | 0.050(*) | —     | —      | 0.050(*) | —     | —      | 0.050(*) | —     |                   | 4     |
| eD   | —      | 0.420(*) | —     | —      | 0.420(*) | —     | —      | 0.620(*) | —     |                   | 4     |
| eE   | —      | 0.420(*) | —     | —      | 0.420(*) | —     | —      | 0.620(*) | —     |                   | 4     |
| l2   | —      | —        | 0.055 | —      | —        | 0.055 | —      | —        | 0.055 |                   | 4     |

Millimètres note 5

| Réf. | 112E10 |          |     | 112E11 |          |      | 112E12 |          |     | Degrés<br>Degrees | Notes |
|------|--------|----------|-----|--------|----------|------|--------|----------|-----|-------------------|-------|
|      | min    | nom      | max | min    | nom      | max  | min    | nom      | max |                   |       |
| b2   | —      | —        | 0,8 | —      | —        | 0,75 | —      | —        | 0,8 |                   | 4     |
| e    | —      | 1,27(*)  | —   | —      | 1,27(*)  | —    | —      | 1,27(*)  | —   |                   | 4     |
| eD   | —      | 15,75(*) | —   | —      | 18,29(*) | —    | —      | 23,37(*) | —   |                   | 4     |
| eE   | —      | 15,75(*) | —   | —      | 18,29(*) | —    | —      | 23,37(*) | —   |                   | 4     |
| l2   | —      | —        | 1,4 | —      | —        | 1,4  | —      | —        | 1,4 |                   | 4     |

Inches note 5

| Ref | 112E10 |          |       | 112E11 |          |       | 112E12 |          |       | Degrés<br>Degrees | Notes |
|-----|--------|----------|-------|--------|----------|-------|--------|----------|-------|-------------------|-------|
|     | min    | nom      | max   | min    | nom      | max   | min    | nom      | max   |                   |       |
| b2  | —      | —        | 0.031 | —      | —        | 0.029 | —      | —        | 0.031 |                   | 4     |
| e   | —      | 0.050(*) | —     | —      | 0.050(*) | —     | —      | 0.050(*) | —     |                   | 4     |
| eD  | —      | 0.620(*) | —     | —      | 0.720(*) | —     | —      | 0.920(*) | —     |                   | 4     |
| eE  | —      | 0.620(*) | —     | —      | 0.720(*) | —     | —      | 0.920(*) | —     |                   | 4     |
| l2  | —      | —        | 0.055 | —      | —        | 0.055 | —      | —        | 0.055 |                   | 4     |

Famille d'encombres 112E  
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Millimètres note 5

| Réf. | 112E13 |         |     | 112E14 |          |      | 112E15 |          |      | Degrés<br>Degrees | Notes |
|------|--------|---------|-----|--------|----------|------|--------|----------|------|-------------------|-------|
|      | min    | nom     | max | min    | nom      | max  | min    | nom      | max  |                   |       |
| b2   | —      | —       | 0,8 | —      | —        | 0,75 | —      | —        | 0,75 |                   | 4     |
| e    | —      | 1,27(*) | —   | —      | 1,27(*)  | —    | —      | 1,27(*)  | —    |                   | 4     |
| eD   | —      | 28,5(*) | —   | —      | 33,53(*) | —    | —      | 41,15(*) | —    |                   | 4     |
| eE   | —      | 28,5(*) | —   | —      | 33,53(*) | —    | —      | 41,15(*) | —    |                   | 4     |
| l2   | —      | —       | 1,4 | —      | —        | 1,4  | —      | —        | 1,4  |                   | 4     |

Inches note 5

| Ref. | 112E13 |          |       | 112E14 |          |       | 112E15 |          |       | Degrés<br>Degrees | Notes |
|------|--------|----------|-------|--------|----------|-------|--------|----------|-------|-------------------|-------|
|      | min    | nom      | max   | min    | nom      | max   | min    | nom      | max   |                   |       |
| b2   | —      | —        | 0.031 | —      | —        | 0.029 | —      | —        | 0.029 |                   | 4     |
| e    | —      | 0.050(*) | —     | —      | 0.050(*) | —     | —      | 0.050(*) | —     |                   | 4     |
| eD   | —      | 1.122(*) | —     | —      | 1.320(*) | —     | —      | 1.620(*) | —     |                   | 4     |
| eE   | —      | 1.122(*) | —     | —      | 1.320(*) | —     | —      | 1.620(*) | —     |                   | 4     |
| l2   | —      | —        | 0.05  | —      | —        | 0.055 | —      | —        | 0.055 |                   | 4     |

Group 3 - Dimensions appropriées pour la manipulation automatique.  
Group 3 - Dimensions appropriate to automated handling.

Millimètres note 5

| Réf. | 112E01 |     |     | 112E02 |     |     | 112E03 |     |     | Degrés<br>Degrees | Notes |
|------|--------|-----|-----|--------|-----|-----|--------|-----|-----|-------------------|-------|
|      | min    | nom | max | min    | nom | max | min    | nom | max |                   |       |
| D    | 7,7    | —   | 7,9 | 7,7    | —   | 7,9 | 8,9    | —   | 9,1 |                   |       |
| E    | 7,7    | —   | 7,9 | 7,7    | —   | 7,9 | 8,9    | —   | 9,1 |                   |       |
| k    | 1,0    | —   | —   | 1,0    | —   | —   | 1,0    | —   | —   |                   |       |
| k1   | —      | —   | 0,5 | —      | —   | 0,5 | —      | —   | 0,5 |                   |       |
| β    | —      | —   | —   | —      | —   | —   | —      | —   | —   | 45° nom           |       |

Inches note 5

| Ref. | 112E01 |     |       | 112E02 |     |       | 112E03 |     |       | Degrés<br>Degrees | Notes |
|------|--------|-----|-------|--------|-----|-------|--------|-----|-------|-------------------|-------|
|      | min    | nom | max   | min    | nom | max   | min    | nom | max   |                   |       |
| D    | 0.303  | —   | 0.311 | 0.303  | —   | 0.311 | 0.350  | —   | 0.358 |                   |       |
| E    | 0.303  | —   | 0.311 | 0.303  | —   | 0.311 | 0.350  | —   | 0.358 |                   |       |
| k    | 0.039  | —   | —     | 0.039  | —   | —     | 0.039  | —   | —     |                   |       |
| k1   | —      | —   | 0.020 | —      | —   | 0.020 | —      | —   | 0.020 |                   |       |
| β    | —      | —   | —     | —      | —   | —     | —      | —   | —     | 45° nom           |       |

Famille d'encombrements 112E  
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# Withdrawn

Millimètres note 5

| Réf.           | 112E04 |     |     | 112E05 |     |     | 112E06 |     |     | Degrés<br>Degrees | Notes |
|----------------|--------|-----|-----|--------|-----|-----|--------|-----|-----|-------------------|-------|
|                | min    | nom | max | min    | nom | max | min    | nom | max |                   |       |
| D              | 8,9    | —   | 9,1 | 9,5    | —   | 9,7 | 9,5    | —   | 9,7 | 45° nom           |       |
| E              | 8,9    | —   | 9,1 | 9,5    | —   | 9,7 | 9,5    | —   | 9,7 |                   |       |
| k              | 1,0    | —   | —   | 1,0    | —   | —   | 1,0    | —   | —   |                   |       |
| k <sub>1</sub> | —      | —   | 0,5 | —      | —   | 0,5 | —      | —   | 0,5 |                   |       |
| β              | —      | —   | —   | —      | —   | —   | —      | —   | —   |                   |       |
|                | —      | —   | —   | —      | —   | —   | —      | —   | —   |                   |       |

Inches note 5

| Ref.           | 112E04 |     |       | 112E05 |     |       | 112E06 |     |       | Degrés<br>Degrees | Notes |
|----------------|--------|-----|-------|--------|-----|-------|--------|-----|-------|-------------------|-------|
|                | min    | nom | max   | min    | nom | max   | min    | nom | max   |                   |       |
| D              | 0.350  | —   | 0.358 | 0.374  | —   | 0.382 | 0.374  | —   | 0.382 | 45° nom           |       |
| E              | 0.350  | —   | 0.358 | 0.374  | —   | 0.382 | 0.374  | —   | 0.382 |                   |       |
| k              | 0.039  | —   | —     | 0.039  | —   | —     | 0.039  | —   | —     |                   |       |
| k <sub>1</sub> | —      | —   | 0.020 | —      | —   | 0.020 | —      | —   | 0.020 |                   |       |
| β              | —      | —   | —     | —      | —   | —     | —      | —   | —     |                   |       |
|                | —      | —   | —     | —      | —   | —     | —      | —   | —     |                   |       |

Millimètres note 5

| Réf.           | 112E07 |     |      | 112E08 |     |      | 112E09 |     |      | Degrés<br>Degrees | Notes |
|----------------|--------|-----|------|--------|-----|------|--------|-----|------|-------------------|-------|
|                | min    | nom | max  | min    | nom | max  | min    | nom | max  |                   |       |
| D              | 11,4   | —   | 11,6 | 11,4   | —   | 11,6 | 16,5   | —   | 16,7 | 45° nom           |       |
| E              | 11,4   | —   | 11,6 | 11,4   | —   | 11,6 | 16,5   | —   | 16,7 |                   |       |
| k              | 1,0    | —   | —    | 1,0    | —   | —    | 1,0    | —   | —    |                   |       |
| k <sub>1</sub> | —      | —   | 0,5  | —      | —   | 0,5  | —      | —   | 0,5  |                   |       |
| β              | —      | —   | —    | —      | —   | —    | —      | —   | —    |                   |       |
|                | —      | —   | —    | —      | —   | —    | —      | —   | —    |                   |       |

Inches note 5

| Ref.           | 112E07 |     |       | 112E08 |     |       | 112E09 |     |       | Degrés<br>Degrees | Notes |
|----------------|--------|-----|-------|--------|-----|-------|--------|-----|-------|-------------------|-------|
|                | min    | nom | max   | min    | nom | max   | min    | nom | max   |                   |       |
| D              | 0.449  | —   | 0.457 | 0.449  | —   | 0.457 | 0.650  | —   | 0.657 | 45° nom           |       |
| E              | 0.449  | —   | 0.457 | 0.449  | —   | 0.457 | 0.650  | —   | 0.657 |                   |       |
| k              | 0.039  | —   | —     | 0.039  | —   | —     | 0.039  | —   | —     |                   |       |
| k <sub>1</sub> | —      | —   | 0.020 | —      | —   | 0.020 | —      | —   | 0.020 |                   |       |
| β              | —      | —   | —     | —      | —   | —     | —      | —   | —     |                   |       |
|                | —      | —   | —     | —      | —   | —     | —      | —   | —     |                   |       |

Famille d'encombres 112E  
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# Withdrawn

Millimètres note 5

| Réf.           | 112E10 |     |      | 112E11 |     |      | 112E12 |     |      | Degrés<br>Degrees | Notes |
|----------------|--------|-----|------|--------|-----|------|--------|-----|------|-------------------|-------|
|                | min    | nom | max  | min    | nom | max  | min    | nom | max  |                   |       |
| D              | 16,5   | —   | 16,7 | 19,0   | —   | 19,2 | 24,1   | —   | 24,3 | 45° nom           |       |
| E              | 16,5   | —   | 16,7 | 19,0   | —   | 19,2 | 24,1   | —   | 24,3 |                   |       |
| k              | —      | 1,0 | —    | 1,0    | —   | —    | —      | 1,0 | —    |                   |       |
| k <sub>1</sub> | —      | 0,5 | —    | —      | —   | 0,5  | —      | 0,5 | —    |                   |       |
| β              |        |     |      |        |     |      |        |     |      |                   |       |
|                |        |     |      |        |     |      |        |     |      |                   |       |

Inches note 5

| Ref.           | 112E10 |       |       | 112E11 |     |       | 112E12 |       |       | Degrés<br>Degrees | Notes |
|----------------|--------|-------|-------|--------|-----|-------|--------|-------|-------|-------------------|-------|
|                | min    | nom   | max   | min    | nom | max   | min    | nom   | max   |                   |       |
| D              | 0.650  | —     | 0.657 | 0.748  | —   | 0.756 | 0.949  | —     | 0.957 | 45° nom           |       |
| E              | 0.650  | —     | 0.657 | 0.748  | —   | 0.756 | 0.949  | —     | 0.957 |                   |       |
| k              | —      | 0.039 | —     | 0.039  | —   | —     | —      | 0.039 | —     |                   |       |
| k <sub>1</sub> | —      | 0.020 | —     | —      | —   | 0.020 | —      | 0.020 | —     |                   |       |
| β              |        |       |       |        |     |       |        |       |       |                   |       |
|                |        |       |       |        |     |       |        |       |       |                   |       |

Millimètres note 5

| Réf.           | 112E13 |     |      | 112E14 |     |      | 112E15 |     |      | Degrés<br>Degrees | Notes |
|----------------|--------|-----|------|--------|-----|------|--------|-----|------|-------------------|-------|
|                | min    | nom | max  | min    | nom | max  | min    | nom | max  |                   |       |
| D              | 29,2   | —   | 29,4 | 34,3   | —   | 34,5 | 41,9   | —   | 42,1 | 45° nom           |       |
| E              | 29,2   | —   | 29,4 | 34,3   | —   | 34,5 | 41,9   | —   | 42,1 |                   |       |
| k              | —      | 1,0 | —    | 1,0    | —   | —    | 1,0    | —   | —    |                   |       |
| k <sub>1</sub> | —      | 0,5 | —    | —      | —   | 0,5  | —      | —   | 0,5  |                   |       |
| β              |        |     |      |        |     |      |        |     |      |                   |       |
|                |        |     |      |        |     |      |        |     |      |                   |       |

Inches note 5

| Ref.           | 112E13 |       |       | 112E14 |     |       | 112E15 |     |       | Degrés<br>Degrees | Notes |
|----------------|--------|-------|-------|--------|-----|-------|--------|-----|-------|-------------------|-------|
|                | min    | nom   | max   | min    | nom | max   | min    | nom | max   |                   |       |
| D              | 1.150  | —     | 1.157 | 1.350  | —   | 1.358 | 1.650  | —   | 1.657 | 45° nom           |       |
| E              | 1.150  | —     | 1.157 | 1.350  | —   | 1.358 | 1.650  | —   | 1.657 |                   |       |
| k              | —      | 0.039 | —     | 0.039  | —   | —     | 0.039  | —   | —     |                   |       |
| k <sub>1</sub> | —      | 0.020 | —     | —      | —   | 0.020 | —      | —   | 0.020 |                   |       |
| β              |        |       |       |        |     |       |        |     |       |                   |       |
|                |        |       |       |        |     |       |        |     |       |                   |       |

Famille d'encombres 112E  
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# Withdrawn

Groupe 4 - Dimensions pour information seulement.  
 Group 4 - Dimensions for information only.

Millimètres note 5

| Réf.           | Applicable à tous les types (de 01 à 15) |     |      | Degrés<br>Degrees | notes |
|----------------|--|-----|------|-------------------|-------|
|                | min                                      | nom | max  |                   |       |
| Z <sub>D</sub> | —  | —   | 2,15 | 45°               |       |
| Z <sub>E</sub> | —  | —   | 2,15 |                   |       |
| γ              |  |     |      |                   |       |

Inches note 5

| Ref.           | Applicable to all types (from 01 to 15) |     |       | Degrés<br>Degrees | notes |
|----------------|---|-----|-------|-------------------|-------|
|                | min                                     | nom | max   |                   |       |
| Z <sub>D</sub> | —                                       | —   | 0.085 | 45°               |       |
| Z <sub>E</sub> | —                                       | —   | 0.085 |                   |       |
| γ              |   |     |       |                   |       |

Notes

- 1 - n correspond au nombre total de positions de sorties.
- 2 - n<sub>D</sub> correspond au nombre de positions de sorties sur un côté du boîtier dans la direction de la dimension D.
- 3 - n<sub>E</sub> correspond au nombre de positions de sorties sur un côté du boîtier dans la direction de la dimension E.
- 4 - Le contrôle des dimensions et des positions des sorties est valablement réalisé lorsque l'on s'assure que ces sorties s'ajustent avec le gabarit des zones de contact des sorties. Cela peut être réalisé à l'aide d'un calibre approprié.
- 5 - Les dimensions en millimètres et les dimensions en inches de ce boîtier sont toutes les deux des dimensions d'origine. Bien que la plus grande attention ait été apportée lors de la spécification des valeurs de ces dimensions pour assurer l'interchangeabilité entre la version en millimètres et la version en inches, il est recommandé à l'utilisateur de ce boîtier de consulter le dessin du fabricant pour connaître la version d'origine de référence.

Notes

- 1 - n refers to the total number of terminal positions.
- 2 - n<sub>D</sub> refers to the number of terminal positions on one side of the package in the direction of dimension D.
- 3 - n<sub>E</sub> refers to the number of terminal positions on one side of the package in the direction of dimension E.
- 4 - Check of the dimensions and positions of package terminals is validly performed when it is ensured that these terminals fit with the pattern of terminal land areas. This can be carried out by means of an appropriate gauge.
- 5 - Both the millimetre and the inch dimensions of this package are original dimensions. Although care has been taken when specifying the dimension values to ensure interchangeability between the millimetre version and the inch version, it is recommended that the user of this package consults the manufacturer's drawing for the reference original version.

(\*) Signifie position géométrique exacte.

(\*) Means true geometrical position.

[ ] Les valeurs données entre crochets sont des valeurs calculées.

[ ] Values given within square brackets are calculated values.

|  |   |             |
|--|---|-------------|
|  | Famille d'encombrements 112E<br>Outline family 112E | Date : 1990 |
|--|---|-------------|

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# Withdrawn

6 - Zone d'un repère visible sur la face supérieure.

6 - Zone of a visible index on the top face.

7 - Coin index de référence.

7 - Index corner.

8 - Le piédestal est un élément facultatif.

8 - The pedestal is an optional feature.

9 - Le dessin des sorties a été interrompu pour montrer la configuration du piédestal.

9 - Drawing of the terminals is deleted to show the outline of the pedestal.

10 - La figure 4 montre la disposition de la sortie n° 1 lorsqu'il y a un nombre impair de sorties par côté, la figure 5 montre la disposition de la sortie n° 1 lorsqu'il y a un nombre pair de sorties par côté.

10 - Figure 4 shows the location of terminal No. 1 when there is an odd number of terminals per side, whereas figure 5 shows the location of terminal No. 1 when there is an even number of terminals per side.

(P) Signifie zone de tolérance projetée (voir ISO 1101, partie 1, article 11).

(P) Means projected tolerance zone (see ISO 1101, Part 1, Clause 11).

Codes

| CEI<br>IEC | Pays-Bas<br>Netherlands | Royaume-Uni<br>United Kingdom | Etats-Unis<br>USA | RDA<br>GDR | Allemagne<br>Germany | URSS<br>USSR |
|------------|-------------------------|-------------------------------|-------------------|------------|----------------------|--------------|
| 112E01     |                         | SO-2195 G                     |                   | B1A Δ      |                      |              |
| 112E02     |                         | SO-2195 H                     |                   |            | 112E02 Δ             |              |
| 112E03     |                         | SO-2195 I                     |                   | B1C Δ      |                      |              |
| 112E04     |                         | SO-195A Δ                     | MO-047AA          |            | 112E04               | K...         |
| 112E05     |                         | SO-2195 J                     |                   | B1D Δ      |                      |              |
| 112E06     |                         | SO-2195 K                     |                   |            | 112E06 Δ             |              |
| 112E07     |                         | SO-2195 L                     |                   | B1E Δ      |                      |              |
| 112E08     |                         | SO-195B Δ                     | MO-047AB          |            | 112E08               | K...         |
| 112E09     |                         | SO-2195 M                     |                   | B1G Δ      |                      |              |
| 112E10     | NT 187 Δ                | SO-195 C                      | MO-047AC          |            | 112E10               |              |
| 112E11     |                         | SO-195D Δ                     | MO-047AD          |            | 112E11               |              |
| 112E12     | NT 188 Δ                | SO-195 E                      | MO-047AE          | B1M        | 112E12               |              |
| 112E13     | NT 189 Δ                | SO-195 F                      | MO-047AF          | B1N        | 112E13               |              |
| 112E14     |                         | SO-2195 N                     | MO-047AG Δ        |            | 112E14               |              |
| 112E15     |                         | SO-2195 P                     | MO-047AH Δ        |            | 112E15               |              |

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# Withdrawn

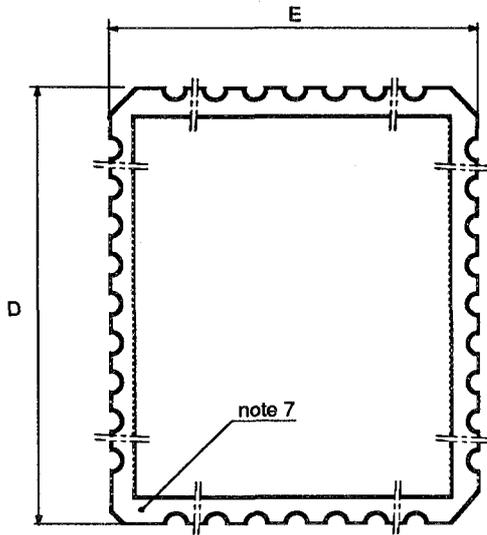


Fig 1a

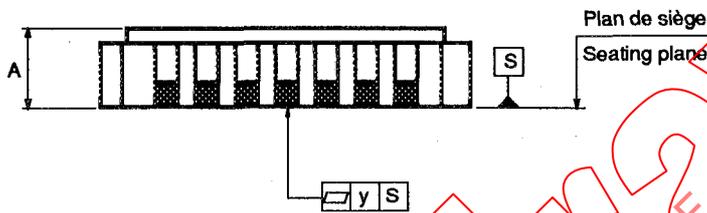


Fig 1b

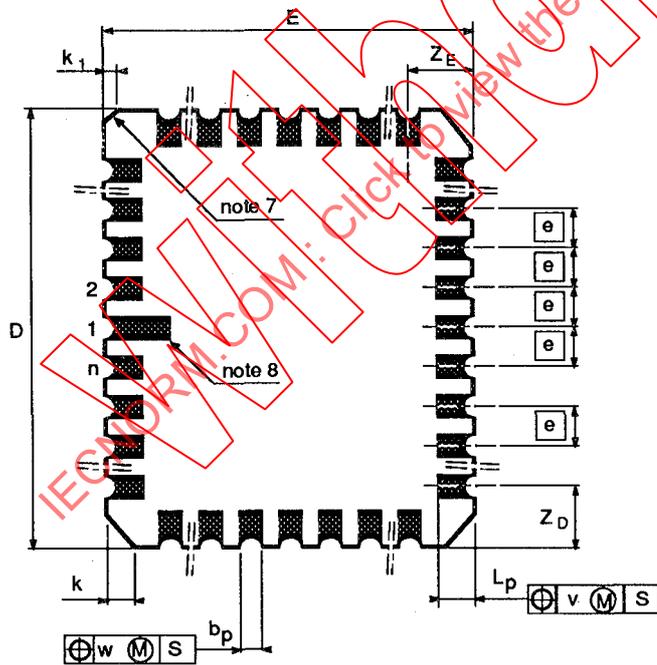


Fig 1c

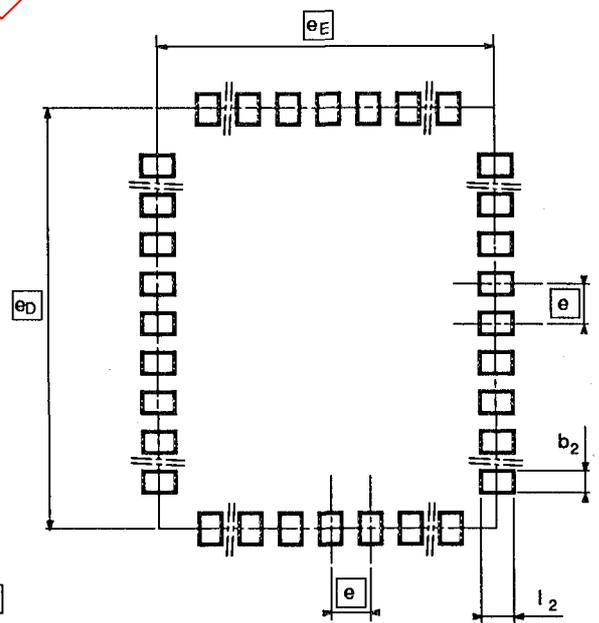
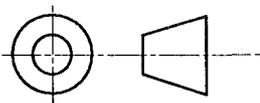


Fig 2

Gabarit des zones de contact des sorties  
Pattern of terminal land areas



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# Withdrawn

Group 1 - Dimensions appropriées pour le montage et l'interchangeabilité.  
 Group 1 - Dimensions appropriate to mounting and interchangeability.

Millimètres (note 6)

| Réf.           | 119E02 |         |       | 119E03 |         |       |  |  |  | Notes |
|----------------|--------|---------|-------|--------|---------|-------|--|--|--|-------|
|                | min    | nom     | max   | min    | nom     | max   |  |  |  |       |
| n              | —      | 28      | —     | —      | 32      | —     |  |  |  | 1     |
| n <sub>D</sub> | —      | 5       | —     | —      | 7       | —     |  |  |  | 2     |
| n <sub>E</sub> | —      | 9       | —     | —      | 9       | —     |  |  |  | 3     |
| A              | 1,52   | —       | 3,04  | 1,52   | —       | 3,04  |  |  |  | 4     |
| b <sub>p</sub> | 0,56   | —       | 0,71  | 0,56   | —       | 0,71  |  |  |  |       |
| D              | —      | 8,89    | —     | —      | 11,43   | —     |  |  |  |       |
| E              | —      | 13,97   | —     | —      | 13,97   | —     |  |  |  |       |
| e              | —      | 1,27(*) | —     | —      | 1,27(*) | —     |  |  |  | 4     |
| L <sub>p</sub> | 1,15   | —       | 1,39  | 1,15   | —       | 1,39  |  |  |  | 4     |
| v              | —      | —       | 0,102 | —      | —       | 0,102 |  |  |  |       |
| w              | —      | —       | 0,127 | —      | —       | 0,127 |  |  |  |       |
| y              | —      | —       | 0,102 | —      | —       | 0,102 |  |  |  |       |

Inches (note 6)

| Ref.           | 119E02 |          |        | 119E03 |          |        |  |  |  | Notes |
|----------------|--------|----------|--------|--------|----------|--------|--|--|--|-------|
|                | min    | nom      | max    | min    | nom      | max    |  |  |  |       |
| n              | —      | 28       | —      | —      | 32       | —      |  |  |  | 1     |
| n <sub>D</sub> | —      | 5        | —      | —      | 7        | —      |  |  |  | 2     |
| n <sub>E</sub> | —      | 9        | —      | —      | 9        | —      |  |  |  | 3     |
| A              | 0.060  | —        | 0.120  | 0.060  | —        | 0.120  |  |  |  | 4     |
| b <sub>p</sub> | 0.022  | —        | 0.028  | 0.022  | —        | 0.028  |  |  |  |       |
| D              | —      | 0.350    | —      | —      | 0.450    | —      |  |  |  |       |
| E              | —      | 0.550    | —      | —      | 0.550    | —      |  |  |  |       |
| e              | —      | 0.050(*) | —      | —      | 0.050(*) | —      |  |  |  | 4     |
| L <sub>p</sub> | 0.045  | —        | 0.055  | 0.045  | —        | 0.055  |  |  |  | 4     |
| v              | —      | —        | 0.0040 | —      | —        | 0.0040 |  |  |  |       |
| w              | —      | —        | 0.0050 | —      | —        | 0.0050 |  |  |  |       |
| y              | —      | —        | 0.0040 | —      | —        | 0.0040 |  |  |  |       |

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Famille d'encombrements 119E  
 Outline family 119E

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# Withdrawn

Groupe 2 - Dimensions appropriées pour le montage et le contrôle par calibre.  
 Group 2 - Dimensions appropriate to mounting and gauging.

Millimètres (note 6)

| Réf.           | 119E02 |          |      | 119E03 |          |      |  |  |  | Notes |
|----------------|--------|----------|------|--------|----------|------|--|--|--|-------|
|                | min    | nom      | max  | min    | nom      | max  |  |  |  |       |
| b <sub>2</sub> | —      | —        | 0,84 | —      | —        | 0,84 |  |  |  | 4     |
| e              | —      | 1,27(*)  | —    | —      | 1,27(*)  | —    |  |  |  | 4     |
| e <sub>1</sub> | —      | 7,62(*)  | —    | —      | 10,16(*) | —    |  |  |  | 4     |
| e <sub>2</sub> | —      | 12,70(*) | —    | —      | 12,70(*) | —    |  |  |  | 4     |
| l <sub>2</sub> | —      | —        | 1,50 | —      | —        | 1,50 |  |  |  | 4     |

Inches (note 6)

| Ref.           | 119E02 |          |       | 119E03 |          |       |  |  |  | Notes |
|----------------|--------|----------|-------|--------|----------|-------|--|--|--|-------|
|                | min    | nom      | max   | min    | nom      | max   |  |  |  |       |
| b <sub>2</sub> | —      | —        | 0.033 | —      | —        | 0.033 |  |  |  | 4     |
| e              | —      | 0.050(*) | —     | —      | 0.050(*) | —     |  |  |  | 4     |
| e <sub>1</sub> | —      | 0.300(*) | —     | —      | 0.400(*) | —     |  |  |  | 4     |
| e <sub>2</sub> | —      | 0.500(*) | —     | —      | 0.500(*) | —     |  |  |  | 4     |
| l <sub>2</sub> | —      | —        | 0.059 | —      | —        | 0.059 |  |  |  | 4     |

Groupe 3 - Dimensions appropriées pour la manipulation automatique.  
 Group 3 - Dimensions appropriate to automated handling.

Millimètres (note 6)

| Réf.           | 119E02 |     |       | 119E03 |     |       |  |  |  | Notes |
|----------------|--------|-----|-------|--------|-----|-------|--|--|--|-------|
|                | min    | nom | max   | min    | nom | max   |  |  |  |       |
| D              | 8,69   | —   | 9,09  | 11,23  | —   | 11,63 |  |  |  |       |
| E              | 13,72  | —   | 14,22 | 13,72  | —   | 14,22 |  |  |  |       |
| k              | 0,77   | —   | —     | 0,77   | —   | —     |  |  |  |       |
| k <sub>1</sub> | —      | —   | 0,63  | —      | —   | 0,63  |  |  |  |       |

Inches (note 6)

| Ref.           | 119E02 |     |       | 119E03 |     |       |  |  |  | Notes |
|----------------|--------|-----|-------|--------|-----|-------|--|--|--|-------|
|                | min    | nom | max   | min    | nom | max   |  |  |  |       |
| D              | 0.342  | —   | 0.358 | 0.442  | —   | 0.458 |  |  |  |       |
| E              | 0.540  | —   | 0.560 | 0.540  | —   | 0.560 |  |  |  |       |
| k              | 0.030  | —   | —     | 0.030  | —   | —     |  |  |  |       |
| k <sub>1</sub> | —      | —   | 0.025 | —      | —   | 0.025 |  |  |  |       |

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# Withdrawn

Groupe 4 - Dimensions pour information seulement.

Group 4 - Dimensions for information only.

Millimètres note 6

| Réf.           | Applicable à tous les types (de 02 et 03) |     |      | Degrés<br>Degrees | notes |
|----------------|---|-----|------|-------------------|-------|
|                | min                                       | nom | max  |                   |       |
| Z <sub>D</sub> | —   | —   | 1,91 |                   |       |
| Z <sub>E</sub> | —   | —   | 1,91 |                   |       |

Inches note 6

| Ref.           | Applicable to all types (from 02 and 03) |     |       | Degrés<br>Degrees | notes |
|----------------|--|-----|-------|-------------------|-------|
|                | min                                      | nom | max   |                   |       |
| Z <sub>D</sub> | —  | —   | 0.075 |                   |       |
| Z <sub>E</sub> | —  | —   | 0.075 |                   |       |

- |  |  |
|--|--|
| <p>1 - n correspond au nombre total de positions de sorties.</p> <p>2 - n<sub>D</sub> correspond au nombre de positions de sorties sur un côté du boîtier dans la direction de la dimension D.</p> <p>3 - n<sub>E</sub> correspond au nombre de positions de sorties sur un côté du boîtier dans la direction de la dimension E.</p> <p>4 - Le contrôle des dimensions et des positions des plots métallisés du boîtier est valablement réalisé lorsque l'on s'assure que ces plots s'ajustent avec le gabarit des zones de contact des sorties.</p> <p>5 - Dimension de référence donnée pour information.<br/>Z est compris entre e (1,27 mm) et 2 e (2,54 mm).</p> <p>6 - Les dimensions en millimètres sont déduites des dimensions d'origine en inches.</p> <p>7 - Coin index de référence utilisé pour le positionnement.</p> <p>8 - La longueur du plot n° 1 doit être visiblement plus grande que la longueur des autres plots.</p> <p>(*) Signifie position géométrique exacte.</p> | <p>1 - n refers to the total number of terminal positions.</p> <p>2 - n<sub>D</sub> refers to the number of terminal positions on one side of the package in the direction of dimension D.</p> <p>3 - n<sub>E</sub> refers to the number of terminal positions on one side of the package in the direction of dimension E.</p> <p>4 - Check of the dimensions and positions of package pads is validly performed when it is ensured that these pads fit with the pattern of terminal land areas.</p> <p>5 - Reference dimension given for information.<br/>Z is comprised between e (0.050") and 2 e (0.100").</p> <p>6 - The millimetre dimensions are derived from the original inch dimensions.</p> <p>7 - Reference index corner used for placement.</p> <p>8 - Length of terminal pad number 1 shall be visibly greater than the length of other terminal pads.</p> <p>(*) Means true geometrical position.</p> |
|--|--|

|                            |   |   |
|----------------------------|---|---|
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Codes

|                               |         |         |  |
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| CEI/IEC                       | 119E02  | 119E03  |  |
| France                        | F209A   | F209B   |  |
| Etats-Unis<br>USA             | Δ       | Δ       |  |
| Royaume-Uni<br>United Kingdom | SO-209A | SO-209B |  |
| Allemagne<br>Germany          | 119E02  | 119E03  |  |
| Pays-Bas<br>Netherlands       |         |         |  |
| Canada                        |         |         |  |

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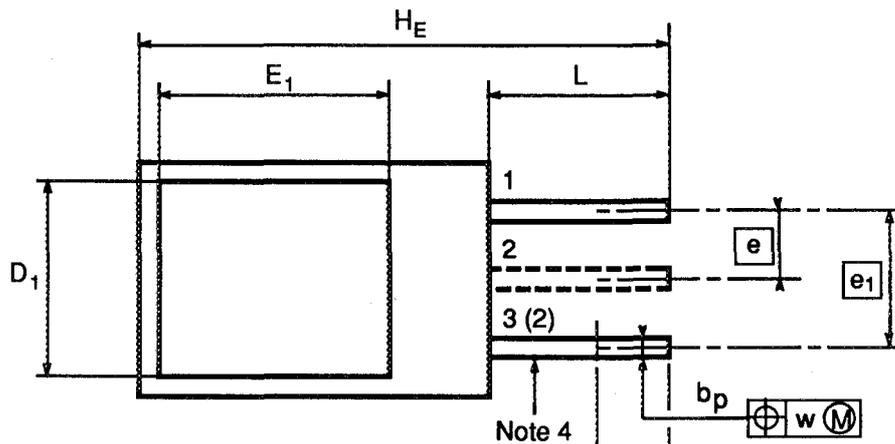
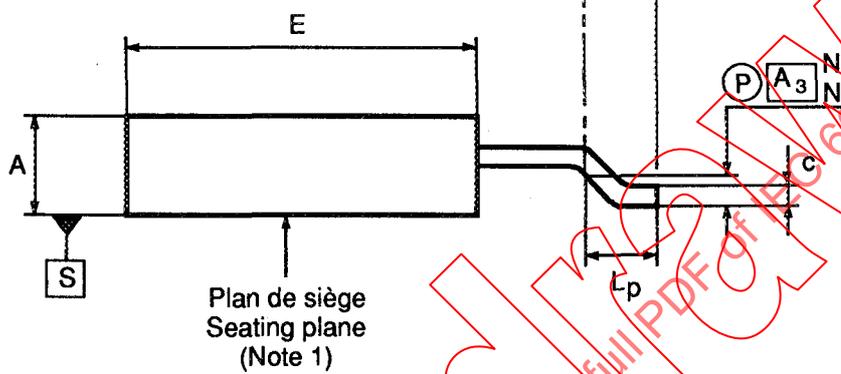


Fig. 1a



Plan de siège  
Seating plane  
(Note 1)

Fig. 1b

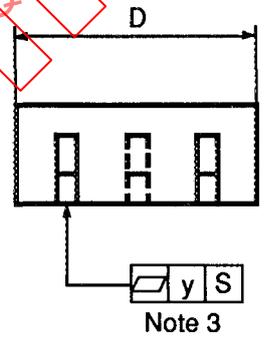


Fig. 1c

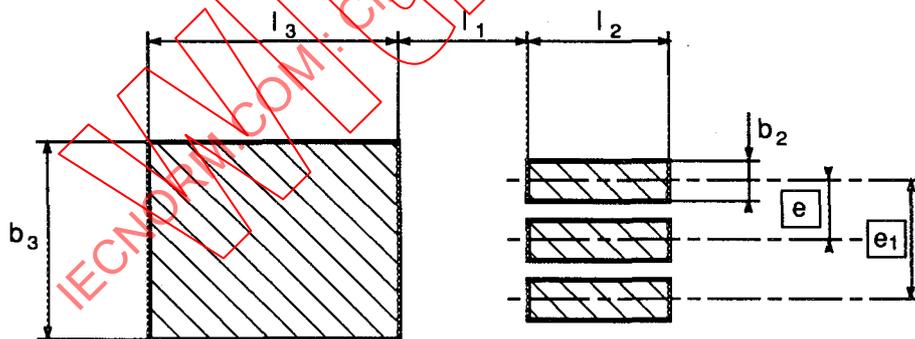
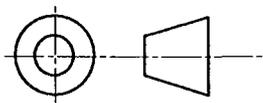


Fig. 2 Gabarit des zones de contact des sorties  
Pattern of terminal land areas



Encombrement 120E  
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