SAE Aerospace
An SAE International Group

AEROSPACE RECOMMENDED PRACTICE

SAE ARP936 | REV. B

Issued 1968-05
Revised 1989-04
Reaffirmed 2003-02
Stabilized 2013-03

Superseding ARP936A

Capacitor, 10 Microfarad for EMI Measurements

RATIONALE

This document has been determined to contain basic and stable technology which is not dynamic in nature.

STABILIZED NOTICE

This document has been declared "Stabilized" by the SAE AE-4 Electromagnetic Environmental Effects (E3) Committee and will no longer be subjected to periodic reviews for currency. Users are responsible for verifying references and continued suitability of technical requirements. Newer technology may exist.

TO PLACE A DOCUMENT ORDER: **Tel: 877-606-7323 (inside USA and Canada)**
Tel: +1 724-776-4970 (outside USA)
Fax: 724-776-0790
Email: CustomerService@sae.org
SAE WEB ADDRESS: **http://www.sae.org**

SAE values your input. To provide feedback on this Technical Report, please visit
http://www.sae.org/technical/standards/ARP936B

1. SCOPE:

   This Aerospace Recommended Practice (ARP) describes the requirements of a special purpose 10 µF feed through capacitor to be used in series with the power line to an electrical or electronic device during EMI tests.

2. APPLICABLE DOCUMENTS:

   The following documents form a part of this recommended practice to the extent specified herein.

   MIL-STD-220 Method of Insertion Loss Measurements
   MIL-F-15733 Filters, Radio Interference

3. REQUIREMENTS:

3.1 Electrical Characteristics:

3.1.1 Capacitance: 10 µF ± 10%

3.1.2 Voltage: 230 V ac 400 Hz (typical - may be other for special purposes)

3.1.3 Insertion Loss: This should be in accordance with Figure 1 when tested in accordance with section 4.

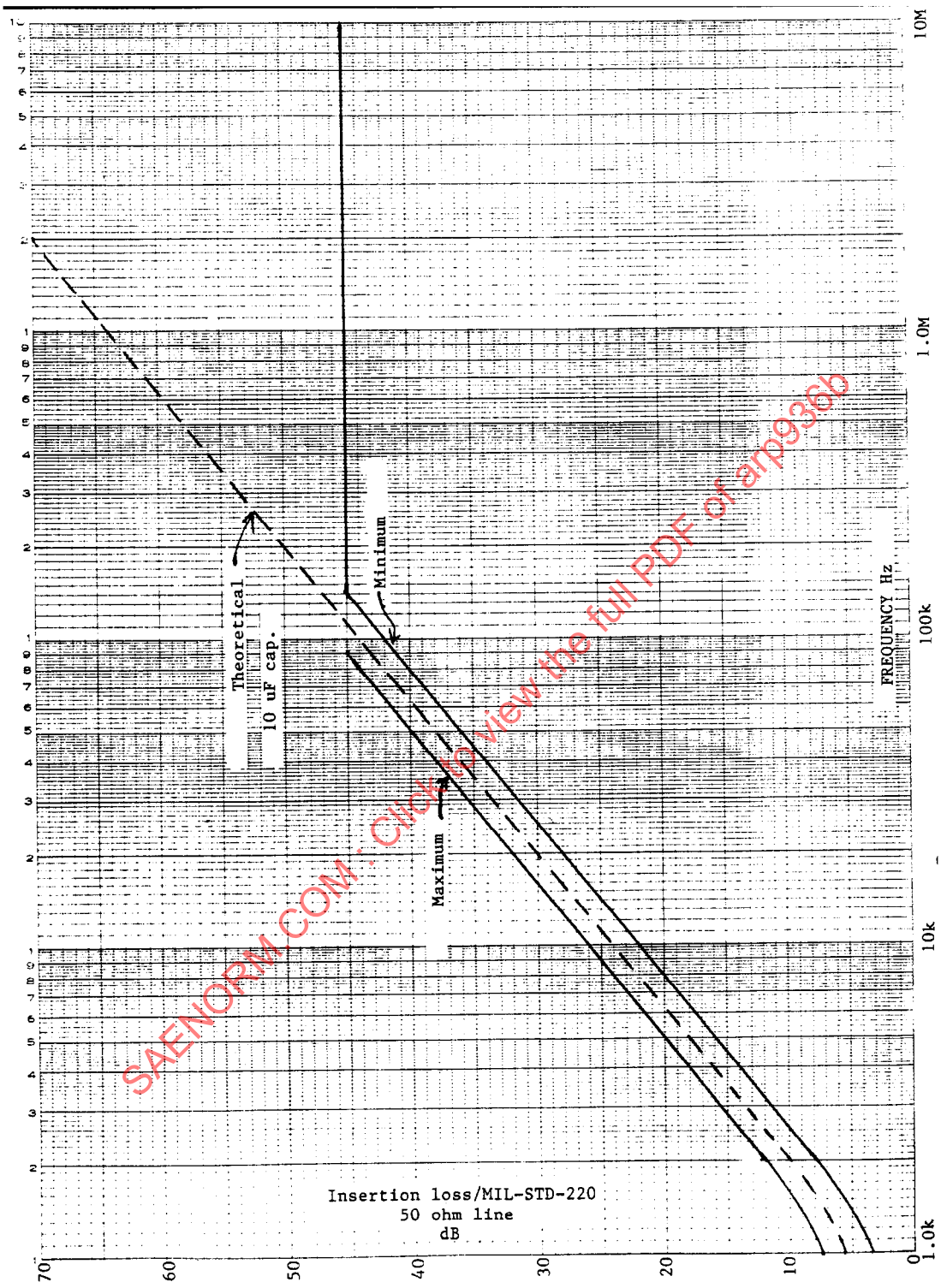

FIGURE 1

3.1.4 Bleed Resistor: A resistor should be connected in parallel with the 10 µF capacitor, within the capacitor housing, as a personnel safety precaution. The value of the resistor is optional; however, its value should be such that the capacitor will not retain a charge for an extended period of time. The suggested value is 510 000 Ω.

3.1.5 Insulation Resistance: The insulation resistance of the capacitor element (without the bleed resistor) will be 50 MΩ minimum at 25 °C.

3.1.6 Voltage Drop: The voltage drop of the capacitor assembly shall not exceed 1% of the power voltage at rated current when measured in accordance with MIL-F-15733.

3.2 Environmental Requirements:

Since the use of this capacitor is intended for shield room type conditions, the environmental requirements are not intended to be severe.

3.2.1 Temperature:

Operating Temperature -55 to +65 °C
Storage Temperature -55 to +65 °C

3.2.2 Life: The units should meet the requirements of 3.21 of MIL-F-15733.

3.3 Mechanical Requirements:

3.3.1 Mounting: Provisions should be made such that the capacitor assembly can be bonded to the ground plane either permanently or temporarily. However, in temporary installations there should be no danger of the capacitor's losing either its electrical connection or its mechanical mounting strength.

3.3.2 Terminations: Terminations must be selected to handle the full rated current continuously and 140% overload for a period of 15 min without damage. The use of an external ground lug is optional.

3.4 Marking:

3.4.1 Rating: The capacitor assembly should be labeled with the capacity, current rating, and voltage rating.