INCH-POUND
MIL-R-55182/11E
26 September 2002
SUPERSEDING
MIL-R-55182/11D
4 May 2001

MILITARY SPECIFICATION

# RESISTORS, FIXED, FILM, ESTABLISHED RELIABILITY, STYLE RN*51 1/

THIS SPECIFICATION INACTIVE FOR NEW DESIGN AFTER 19 November 1985. FOR NEW DESIGN USE MIL-PRF-55182/7.

This specification is approved for use by all Departments and agencies of the Department of Defense.

## 1. SCOPE

1.1 Scope. This specification covers the requirements for style RN*51 established reliability, fixed, film resistors. 1/

1.2 Part or Identifying Number (PIN). Resistors covered by this specification are identified by a PIN which is derived in accordance with MIL-PRF-55182 and is in the following form:

| RN*51 1/ | C1001FS |
|---|---|
| Style and Termination type | Coded number |

## 2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in sections 3 and 4 of this specification, whether or not they are listed.

2.2 Government documents.

2.2.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DoDISS) and supplement thereto, cited in the solicitation (see 6.2).

SPECIFICATION

DEPARTMENT OF DEFENSE

MIL-PRF-55182 - Resistor, Fixed, Film, Nonestablished Reliability, Established Reliability, and Space Level, General Specification for.

1/ Third letter is variable, dependent upon lead material or capability.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Defense Supply Center, Columbus, ATTN: DSCC-VAT, Post Office Box 3990, Columbus, OH 43216-5000 by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A FSC 5905

(Unless otherwise indicated, copies of the above specifications, standards, and handbooks are available from the Document Automation and Production Service, Building 4D (DPM-DODSSP), 700 Robbins Avenue, Philadelphia, PA 19111-5094).

2.3 Order of precedence. In event of a conflict between the text of this document and the references cited herein (except for related associated specifications, specification sheets, or MS sheets), the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 General. The requirements for acquiring the product described herein shall consist of this document and MIL-PRF-55182.

3.2 Interface and physical dimensions. The resistors shall meet the interface and physical dimensions specified in figure 1.

* 3.2.1 Characteristics. Style RN*51 is available in characteristics H, J, and K. 1/

* 3.2.2 Terminal types. Terminal type RNR is inactive for new design with characteristics H, J, and K.

3.3 Power rating. The power rating shall be 0.050 watt, based on full load operation at an ambient temperature of 125°C (see 6.4).

3.4 Voltage rating. The continuous working voltage shall not exceed 200 volts.

3.5 Resistance. The resistance values shall be 10 ohms minimum to 0.793 megohms maximum for characteristics H, J, and K.

3.6 Voltage coefficient (applicable to resistors of 1,000 ohms and above). The voltage coefficient shall not exceed ±0.005 percent per volt.

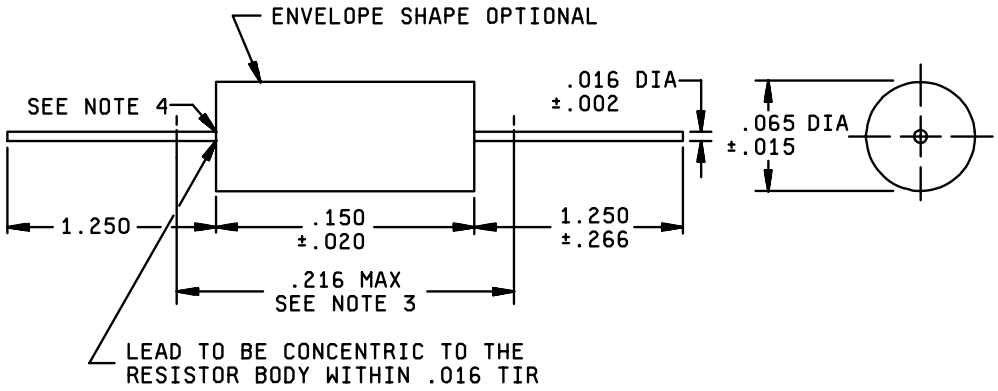
3.7 Mechanical sheer. Mechanical sheer is required for this style resistor.

3.8 Insulation. Insulating material surrounding the resistor body shall extend around the entire shoulder of each end cap toward the axis of the lead attachment.

3.9 Marking. Due to size limitations this style resistor shall be marked with the following minimum information:

| | |
|---|---|
| 226K | Date code, characteristic |
| 10R0 | Coded resistance |
| FMCJ | Tolerance, failure rate, terminal type and JAN marking |

1/ Third letter is variable, dependent upon lead material or capability.




| Inches | mm | Inches | mm | Inches | mm |
|---|---|---|---|---|---|
| 0.002 | 0.05 | 0.020 | 0.51 | 0.216 | 5.49 |
| 0.015 | 0.38 | 0.065 | 1.65 | 0.266 | 6.76 |
| 0.016 | 0.41 | 0.150 | 3.81 | 1.250 | 31.75 |

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information.
3. The maximum length is “clean lead” to “clean lead”.
4. The end of the body shall be that point at which the body diameter equals the nearest drill size larger than 250 percent of the nominal lead diameter.
5. Lead length for new design and tape real packaging shall be 1.00 inch +0.625 inch, -0.000 inch (25.4 mm +15.80 mm, -0.00 mm).
6. Lead concentric tolerance is to be measured at the point of lead egress from the resistor body.

* FIGURE 1. Style RN*51 resistor. 1/

4. VERIFICATION

4.1 Verification. Verification shall be in accordance with MIL-PRF-55182.

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DoD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point’s packaging activity within the Military Department or Defense Agency, or within the Military Department’s System Command. Packaging data retrieval is available from the managing Military Departments or Defense Agency’s automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

1/ Third letter is variable, dependent upon lead material or capability.

## 6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. The intended use specified in MIL-PRF-55182 is applicable to this specification.

6.2 Acquisition requirements. Acquisition documents must specify the following:

a. Title, number, and date of this specification, and the complete PIN (see 1.2).

b. Issue of DoDISS to be cited in the solicitation, and if required, the specific issue of the individual documents referenced (see 2.1).

c. Packaging requirements (see 5.1). (i.e. Electrostatic discharge (ESD) sensitive packaging).

6.3 Reliability levels. Data submitted for reliability levels established for MIL-PRF-55182/7 may be combined with this specification data to establish or maintain the reliability level of this specification if identical resistors are both qualified for MIL-PRF-55182/7 and this specification.

6.4 Power rating at 70°C. The power at 70°C for 2,000 hours life test has been established at 0.1 watt, maximum voltage is 200 volts. It should be noted that the failure rate level is established at the single condition of 125°C, 0.05 watt and 10,000 hours life test duration.

6.5 Qualification. With respect to products requiring qualification, awards will be made only for products which are, at the time of award of contract, qualified for inclusion in the Qualified Products List whether or not such products have actually been so listed by that date. The attention of the contractors is called to these requirements, and manufacturers are urged to arrange to have the products that they propose to offer to the Federal Government tested for qualification in order that they may be eligible to be awarded contracts or orders for the products covered by this specification. Information pertaining to qualification of products may be obtained from Defense Supply Center, Columbus, ATTN: DSCC-VQP, Post Office Box 3990, Columbus, OH 43216-5001.

6.6 Electrostatic charge. Under several combinations of conditions, these resistors can be electrically damaged, by electrostatic charges, and drift from specified value. Users should consider this phenomena when ordering or shipping resistors. Direct shipment to the Government is controlled by MIL-DTL-39032 that specifies a preventive packaging procedure.

* 6.7 Changes from previous issue. The margins of this specification are marked with asterisks to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

Custodians:
Army - CR
Navy - EC
DLA - CC

Preparing activity:
DLA - CC

(Project 5905-1678-01)

# STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

**INSTRUCTIONS**

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.

2. The submitter of this form must complete blocks 4, 5, 6, and 7.

3. The preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

| **I RECOMMEND A CHANGE:** | **1. DOCUMENT NUMBER**<br>MIL-R-55182/11E | **2. DOCUMENT DATE (YYMMDD)**<br>02/09/26 |
|---|---|---|

**3. DOCUMENT TITLE** RESISTORS, FIXED, FILM, ESTABLISHED RELIABILITY, STYLE RN*51

**4. NATURE OF CHANGE (Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)**

**5. REASON FOR RECOMMENDATION**

**6. SUBMITTER**

| a. NAME (Last, First, Middle initial) | b. ORGANIZATION | |
|---|---|---|
| c. ADDRESS (Include Zip Code) | d. TELEPHONE (Incl Area Code)<br>(1) Commercial<br>(2) AUTOVON<br>(If applicable) | 7. DATE SUBMITTED<br>(YYMMDD) |

**8. PREPARING ACTIVITY**

| a. NAME<br>Defense Supply Center, Columbus<br>ATTN: DSCC/VAT | b. TELEPHONE (Include Area Code)<br>(1) Commercial (2) AUTOVON E-mail<br>(614) 692-0553 850-0553 Dennis.Cross@dscc.dla.mil |
|---|---|
| c. ADDRESS (Include Zip Code)<br>Post Office Box 3990<br>Columbus, OH 43216-5000 | **IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT:**<br>Defense Quality and Standardization Office<br>5803 Leesburg Pike, Suite 1403, Falls Church, VA 22041-3466<br>Telephone (703) 756-2340 AUTOVON 289-2340 |