

INCH-POUND

MIL-PRF-83401/20A
18 March 1996
SUPERSEDING
MIL-PRF-83401/20
13 August 1991

PERFORMANCE SPECIFICATION

RESISTOR NETWORK, FIXED, FILM,
STYLE RZ200, 10 PIN SIP

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 associated requirements for style RZ200, 10 pin single-in-line package (SIP) resistor networks. This style is available in all characteristics and resistance tolerances of F, G, and J. This specification has two product levels, a high reliability, 100 percent burn-in screened "M" part number level and nonburn-in screened part number "C".

1.2 Part or Identifying Number (PIN). Resistor networks covered by this specification will be identified by a PIN which will consist of the basic number of this specification and a coded number. The PIN will be in the following form:

100 percent burn-in screened network ("M" part number)

M8340120

H1002FC

Associated specification number

Coded number

Nonburn-in screened network ("C" part number)

C8340120

H1002FC

Associated specification number

Coded number

The coded number will be derived in accordance with MIL-PRF-83401.

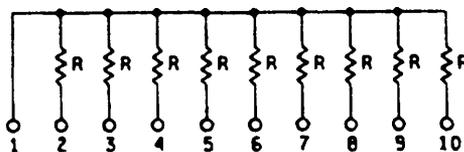
Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Defense Electronics Supply Center, ATTN: DESC-ELDM, 1507 Wilmington Pike, Dayton, OH 45444-5765, by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

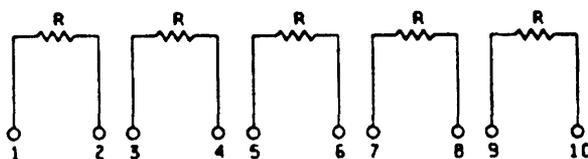
FSC 5905

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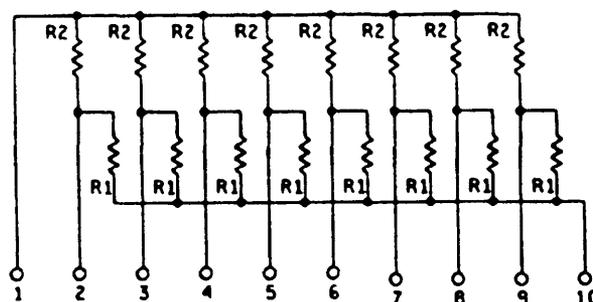
1.2.1 Schematics. The schematic of the resistor network will be identified by a single letter in accordance with the drawings below. The resistor element R_{REF} will be the reference element used in determining the ratio accuracy (when applicable).



SCHMATIC C



SCHMATIC G



SCHMATIC H

1.2.1.1 Standard resistance values. The standard resistance values and the resistance values designators for the H schematic are as specified in table I.

TABLE I. Standard resistance values.

| Resistance designator | R_1 (ohms) | R_2 (ohms) | Resistance designator | R_1 (ohms) | R_2 (ohms) |
|-----------------------|--------------|--------------|-----------------------|--------------|--------------|
| A001 | 82 | 130 | A010 | 330 | 470 |
| A002 | 120 | 200 | A011 | 330 | 680 |
| A003 | 130 | 210 | A012 | 1.5k | 3.3k |
| A004 | 160 | 260 | A013 | 3.0k | 6.2k |
| A005 | 180 | 240 | A014 | 180 | 270 |
| A006 | 180 | 390 | A015 | 270 | 270 |
| A007 | 220 | 270 | A016 | 560 | 560 |
| A008 | 220 | 330 | A017 | 560 | 1.2k |
| A009 | 330 | 390 | A018 | 620 | 2.7k |

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3, 4, and 5 of this specification. The section does not include documents cited in other sections of this specification or recommended for additional information or as samples. 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, 4, and 5 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 a 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-83401 - Resistor Networks, Fixed, Film, and Capacitor-Resistor Networks, Ceramic Capacitor and Fixed Resistors, General Specification for.

(Unless otherwise indicated, copies of the above specifications, standards, and handbooks are available from the Standardization Document Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

2.3 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, 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 Associated specifications. The individual item requirements shall be in accordance with MIL-PRF-83401, as specified herein.

3.2 Interface and physical dimension. The resistor shall meet the interface and physical dimensions specified on figure 1.

3.2.1 Internal connection. Internal connections shall be accomplished by thermal compression bonding of gold to gold, to form a solid weld from the lead to the internal resistor connection. No solder, eutectic or noneutectic, shall be permitted in this construction.

3.3 Power rating (70°C). The power ratings for schematics C, G, and H shall be as specified in table II.

TABLE II. Power rating.

| Schematic | Characteristic | Element power rating (watts) | Network power rating (watts) |
|-----------|----------------|------------------------------|------------------------------|
| C | C | 0.1 | 0.9 |
| | H | 0.2 | 1.8 |
| | K | 0.2 | 1.8 |
| | M | 0.2 | 1.8 |
| | V | 0.1 | 0.9 |
| G | C | 0.1 | 0.5 |
| | H | 0.2 | 1.0 |
| | K | 0.2 | 1.0 |
| | M | 0.2 | 1.0 |
| | V | 0.1 | 0.8 |
| H | C | 0.06 | 0.9 |
| | H | 0.11 | 1.8 |
| | K | 0.11 | 1.8 |
| | M | 0.11 | 1.8 |
| | V | 0.06 | 0.9 |

3.4 Power conditioning. The power applied for power conditioning for schematics C, G, and H shall be 1.5 times rated power.

3.5 Voltage rating. The maximum continuous working voltage for each resistor shall not exceed 50 volts dc or ac rms.

3.6 Resistance. Minimum and maximum resistance values shall be as follows:

| Resistance tolerance | Minimum resistance (ohms) | Maximum resistance (megohms) |
|------------------------|---------------------------|------------------------------|
| F (± 1.0 percent) | 10.0 | 1 |
| G (± 2.0 percent) | 10.0 | 1 |
| J (± 5.0 percent) | 10.0 | 1 |

4 VERIFICATION

4.1 Sampling and inspection. Sampling and inspection shall be in accordance with MIL-PRF-83401.

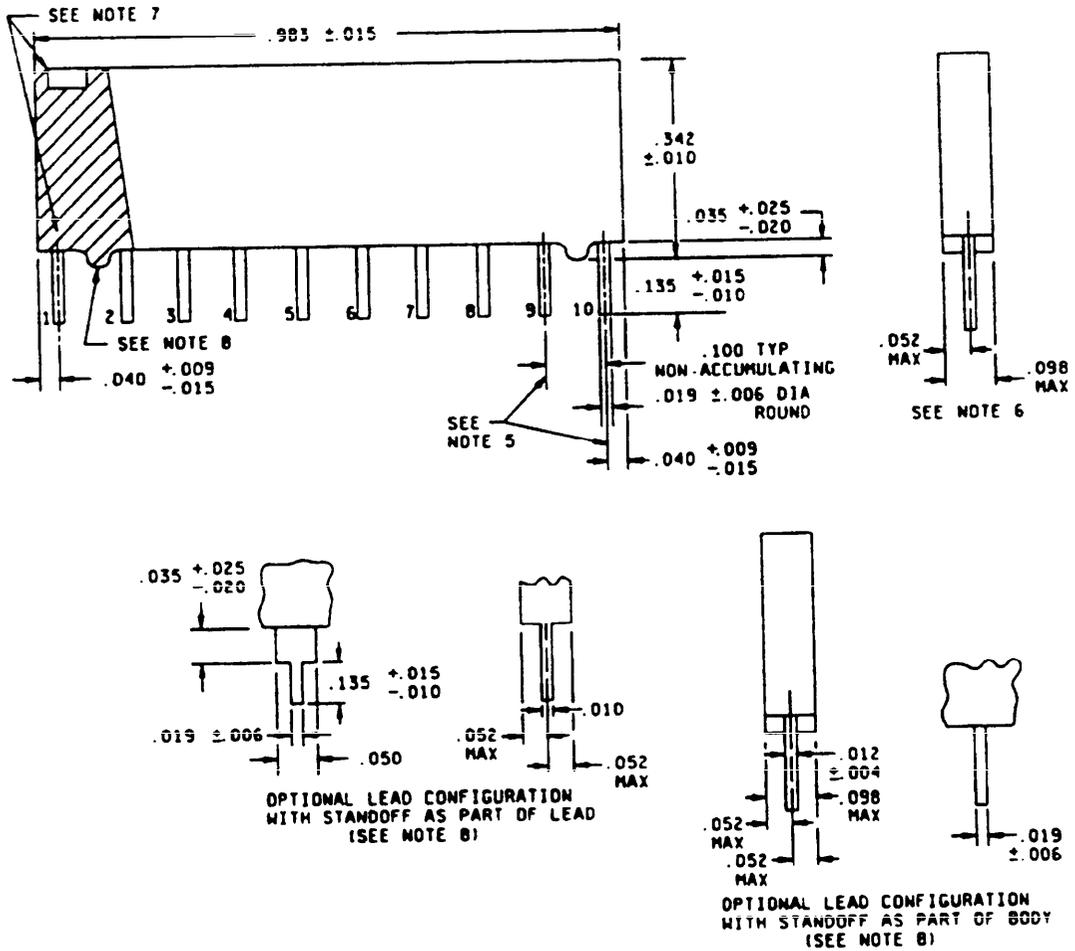


FIGURE 1 Style RZ200 resistors

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| Inches | mm | Inches | mm |
|--------|------|--------|-------|
| .004 | 0.10 | .023 | 0.58 |
| .005 | 0.13 | .025 | 0.64 |
| .006 | 0.15 | .030 | 0.76 |
| .008 | 0.20 | .035 | 0.89 |
| .009 | 0.23 | .040 | 1.02 |
| .010 | 0.25 | .049 | 1.24 |
| .012 | 0.30 | .052 | 1.32 |
| .014 | 0.36 | .098 | 2.49 |
| .015 | 0.38 | .100 | 2.54 |
| .019 | 0.48 | .135 | 3.43 |
| .020 | 0.51 | .342 | 8.69 |
| | | .983 | 24.97 |

NOTES:

1. Dimensions are inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are $\pm .005$ (0.13 mm).
4. The picturization of the styles above is given as representative of the envelope item. Slight deviations from the outline shown, which are contained within the envelope and do not alter the functional aspects of the device, are acceptable.
5. Terminal centerline to centerline measurements made at point of emergence of the lead from the body.
6. Measurement made at the point of emergence of the lead of the body.
7. Pin 1 locator shall be a dot, notch, stripe, or numeral 1 adjacent to pin no. 1, in the shaded area; also, additional marking may be placed on top edge where the bevel may be located.
8. If the standoffs are located on the body, a minimum of two standoffs are required as illustrated. As an option, additional standoffs may be located on the body of the resistor network. If leads with standoffs are used, standoffs on the body are not required.

FIGURE 1 Style RZ200 resistors - Continued

4.2 H schematic tests. For the tests on H schematic, the dc resistance measurements, resistance temperature characteristic measurement, and short time overload power application shall be made between each terminal and the applicable common terminal without compensation for the shunt circuits. The pin to pin dc resistance measurements shall be used directly to determine the acceptability to section 3 requirements.

5. PACKAGING

5.1 Packaging requirements. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of material 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 Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

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

6.1 Notes. The notes specified in MIL-PRF-83401 are 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 individual documents referenced (see 2.1).

6.3 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

CONCLUDING MATERIAL

Custodians:

Army - ER
Navy - EC
Air Force - 85
NASA - NA

Preparing activity:

DLA - ES

(Project 5905-1450-15)

Review activities:

Army - AR, AT, AV, ME, MI
Navy - AS, CG, MC, OS
Air Force - 17, 19

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.

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| RECOMMEND A CHANGE: | 1. DOCUMENT NUMBER MIL-PRF-83401/20A | 2. DOCUMENT DATE (YYMMDD) |
| 3. DOCUMENT TITLE RESISTOR NETWORK, FIXED, FILM, STYLE RZ200, 10 PIN SIP | | |
| 4. NATURE OF CHANGE (Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.) | | |
| 5. REASON FOR RECOMMENDATION | | |
| 6. SUBMITTER NAME (Last, First, Middle Initial) | | |
| 7. ADDRESS (Include Zip Code) | | |
| 8. PREPARING ACTIVITY | | |
| a. NAME Defense Electronics Supply Center, ATTN: DESC-ELDM | b. TELEPHONE (Include Area Code) (1) Commercial: 513-296-5257 (2) AUTOVON: DSN 986-5257 | |
| c. ADDRESS (Include Zip Code) 1507 Wilmington Pike Dayton, OH 45444-5765 | IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT: Defense Quality and Standardization Office 5203 Leesburg Pike, Suite 1403, Falls Church, VA 22041-3466 Telephone (703) 756-2340 AUTOVON 289 2340 | |