INCH-POUND
MIL-PRF-39007/9J
w/ Amendment 1
27 March 2015
SUPERSEDING
MIL-PRF-39007/9J
17 October 2008

PERFORMANCE SPECIFICATION

RESISTOR, FIXED, WIREWOUND (POWER TYPE), NONESTABLISHED RELIABILITY, ESTABLISHED RELIABILITY, AND SPACE LEVEL STYLE RWR81

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

The requirements for acquiring the product described herein shall consist of this specification sheet and MIL-PRF-39007.

1. SCOPE

1.1 Scope. This specification covers the associated requirements for style RWR81, nonestablished reliability, established reliability, and space level, power type, wirewound, fixed, resistor. These resistors are available with terminal types "S" (solderable, inductively wound), "W" (weldable, inductively wound), "N" (solderable, noninductively wound), and "Z" (weldable, noninductively wound).

1.2 Part or Identifying Number (PIN). Resistors covered by this specification are identified by a PIN which consists of the style designation, terminal and winding, coded resistive value, tolerance, and product level designator. The PIN is derived in accordance with MIL-PRF-39007 and is in the following form:

RWR81	S	1000	F	S
Style	Terminal wire and winding	Resistance	Resistance tolerance	Product level designator

Comments, suggestions, or questions on this document should be addressed to Army Standardization Program Lead Engineering Operations Division (PRD), ATTN: CERDEC, Pod 153, Bldg. 6010, Aberdeen Proving Ground, MD 21005 or emailed to usarmy.APG.cerdec.mbx.standardization-crx@mail.mil. Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at https://assist.dla.mil.

AMSC N/A FSC 5905
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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 of documents cited in sections 3 and 4 of this specification, whether or not they are listed.

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 cited in the solicitation or contract.

DEPARTMENT OF DEFENSE SPECIFICATIONS

MIL-PRF-39007 - Resistor, Fixed, Wirewound (Power Type), Nonestablished Reliability, Established Reliability, and Space Level, General Specification for.

* (Copies of these documents are available online at http://quicksearch.dla.mil.)

* 2.3 Order of precedence. Unless otherwise noted herein or in the contract, or in the event of a conflict between the text of this document and the references cited herein (except for related specification 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-39007.

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

3.2.1 Noninductive windings. Noninductively wound resistors shall be identified by terminal designation N to indicate a solderable terminal and Z to indicate a weldable terminal.

3.3 Minimum resistance value for all terminations (S, W, N, Z). For inductively wound and noninductively wound resistors, the minimum resistance value shall be 0.1 ohm. For resistance tolerance B (.1 percent), minimum resistance value shall be .499 ohm.

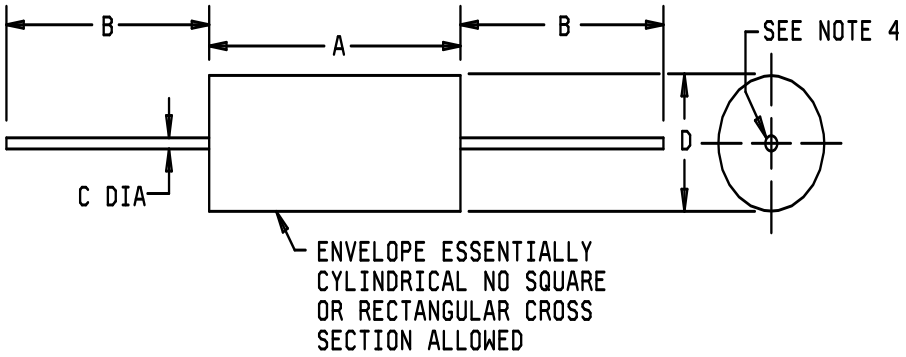
3.4 Maximum resistance value for S and W (inductively wound). For resistors having inductive characteristic S and W designation, the maximum resistance value shall be 1,000 ohms.

3.5 Maximum resistance value for N and Z type resistors. For resistors having noninductive characteristic N and Z designation, the maximum resistance value shall be 499 ohms.

3.6 Resistance temperature characteristic. The resistance temperature characteristic is resistance depended and is as specified in table I.

TABLE I. Resistance temperature characteristic.

Resistance range (ohms)	Resistance temperature characteristic (Reference to 25°C)
0.1≤R≤0.499	±650 ppm
0.499<R≤1.0	±400 ppm
1.0<R≤10	±50 ppm
10<R	±20 ppm



Inches	mm	Inches	mm
.0015	0.038	.062	1.57
.016	0.41	.085	2.16
.0200	0.508	.250	6.35
.031	0.79	1.500	38.10

Standard style	Dimensions			
	A ±.031	B (min)	C ±.0015	D ±.020
RWR81	.250	1.500	.0200	.085

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Dimension A is clean lead to clean lead.
4. Lead concentric tolerance is to be measured at the point of lead egress from the resistor body to be within .016 TIR.
5. Lead length for tape and reel packaging shall be 1 inch minimum.

FIGURE 1. Style RWR78 resistor.

3.7 Power rating. The power rating shall be 1 watt at +25°C.

3.8 Weight. The maximum weight shall be .00077 pound (.35 grams); for N type resistors the maximum weight shall be .00154 pound (.70 grams).

3.9 Terminal lead types. This style resistor is available in both solderable (S and N) and weldable (W and Z) leads.

3.10 Marking. Due to size limitation, this style resistor shall be marked with the minimum marking as specified.

49R9: Resistance.
SFMJ: Terminal designator, tolerance, failure rate, JAN marking.
8140: Date code.

4. VERIFICATION

4.1 Sampling and inspection. Sampling and inspection shall be in accordance with MIL-PRF-39007.

4.2 Short-time overload. The duration of applied voltage shall be 5 seconds. Voltage applied shall be equivalent to 5 times rated wattage.

4.3 Dielectric withstanding voltage.

4.3.1 Atmospheric pressure. The magnitude of test voltage shall be 500 volts rms.

4.3.2 Barometric pressure (reduced). The test voltage shall be 100 volts rms.

4.4 Terminal strength. The applied force shall be 5 pounds.

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When packaging of material is to be performed by DoD or in-house contractor personnel, these personnel need to contact the responsible packaging activity to ascertain packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activities within the Military Service or Defense Agency, or within the military service's system commands. 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 a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Notes. In addition to the notes specified herein, the notes specified in MIL-PRF-39007 are applicable to this specification.

6.2 Acquisition requirements. Acquisition documents must specify the following:

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

b. Unless otherwise specified (see 2.1), the versions of the individual documents referenced will be those in effect on the date of release of the solicitation.

c. Packaging requirements (see 5.1).

6.3 MIL-R-26 substitution data. Resistors of this specification regardless of their failure rate designation are substitutes for resistors of the same resistance value, tolerance, and appropriate characteristics specified in the inactive specification MIL-R-26/6, style RW81.

* 6.4 Amendment notations. The margins of this specification are marked with asterisks to indicate modifications generated by this amendment. 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.

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