

PERFORMANCE SPECIFICATION

RESISTOR, FIXED, WIRE-WOUND (POWER TYPE),
STYLES RW55, RW56, RW67, RW68, and RW69

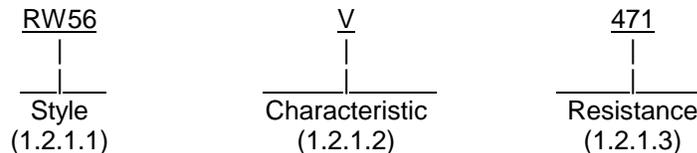
ALL STYLES, EXCEPT RW56, ARE INACTIVE FOR NEW DESIGN

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 styles RW55, RW56, RW67, RW68, and RW69 resistors.

1.2 Part or Identifying Number (PIN). Resistors covered by this specification are identified by a PIN that consists of the style designation, characteristic, and coded resistive value. The PIN is derived in accordance with MIL-PRF-26 and is in the following form:



1.2.1.1 Style. The style is identified by the two-letter symbol "RW" followed by a two-digit number.

1.2.1.2 Characteristic. The characteristic is identified by a single letter that identifies the maximum continuous operating temperature (surface hot spot), the minimum insulation resistance value at the end of the moisture resistance test, and the resistance temperature characteristic in accordance with table I.

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, P.O. 3990, Columbus, Ohio, 43216-5000, by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

1.2.1.3 Resistance. The nominal resistance expressed in ohms is identified by a three-digit number: The first two digits represent significant figures and the last digit specifies the number of zeroes to follow. When resistance values less than 10 ohms are required, the letter "R" is substituted for one of the significant digits to represent the decimal point. When the letter "R" is used, succeeding digits of the group represent significant figures as shown in the following example.

$$R47 = 0.47 \text{ ohm}$$

$$4R7 = 4.7 \text{ ohm}$$

Minimum and maximum resistance values are as specified herein. The standard values for every decade should follow the sequence demonstrated for the "10 to 100" decade in accordance with RS-385.

TABLE I. Characteristic.

Symbol	Maximum continuous operation temperature ^{1/}	Minimum insulation resistance at end of moisture resistance	Resistance temperature characteristic (ppm/°C)
V	350°C	100 Megohms	0 ±260 ≥20 ohms
			0 ±400 ≥10 ohms to <20 ohms
			0 +400, -200 ≥1 ohm to <10 ohms
			0 +500, -100 ≥0.499 ohm to <1 ohm
			0 +650, -100 ≥0.1 ohm to < 0.499 ohm

^{1/} This temperature is also the maximum permissible hot-spot surface temperature.

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 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).

MIL-PRF-26/4E

SPECIFICATION

DEPARTMENT OF DEFENSE

MIL-PRF-26 - Resistors, Fixed, Wire Wound (Power Type), General Specification for.

(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 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents that are DoD adopted are those listed in the issue of the DoDISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DoDISS are the issues of the documents cited in the solicitation (see 6.2).

ELECTRONIC INDUSTRIES ALLIANCE (EIA)

EIA RS-385 - Preferred Values

(Applications for copies should be addressed to Electronic Industries Alliance (EIA), 2500 Wilson Boulevard, Arlington, VA 22201-3834.)

2.4 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 General. The requirements for acquiring the product described herein shall consist of this document and MIL-PRF-26.

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

3.3 Power rating. The power rating shall be as specified in table II, based on full load operation at an ambient temperature of 25°C.

TABLE II. Power rating.

Resistor style	Power rating in watts
	Characteristic V
RW55	7
RW56	14
RW67	6.5
RW68	11
RW69	3

3.4 Resistance. The minimum and maximum nominal resistance values shall be as specified in table III.

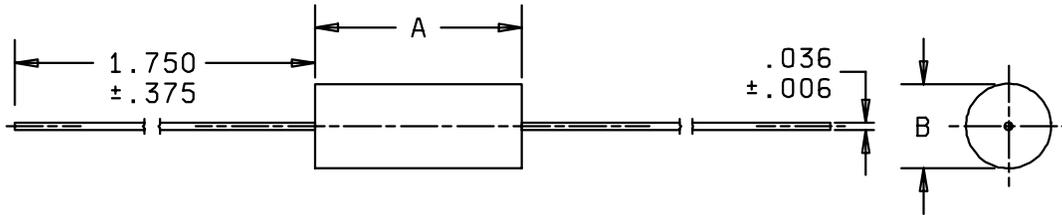
3.4.1 Standard resistance values. For standard resistance values see RS-385.

MIL-PRF-26/4E

TABLE III. Minimum and maximum nominal resistance values.

Resistor style	Resistance value (kohms)	
	Minimum	Maximum
RW55	0.10	5.1
RW56	0.10	9.1
RW67	0.10	8.2
RW68	0.10	20.0
RW69	0.10	2.0

3.5 Resistance tolerance. Resistors of less than 1 ohm in resistance value shall have a tolerance of ± 10 percent of the nominal resistance value. Resistors of 1 ohm and over in resistance value shall have a tolerance of ± 5 percent of the nominal resistance value.



	RW55	RW56	RW67	RW68	RW69
A	1.375 \pm .094	2.0 \pm .094	1.0 \pm .094	1.875 +.063, -.125	.500 \pm .063
B	.469 \pm .094	.469 \pm .094	.313 \pm .063	.344 \pm .094	.188 \pm .063

Inch	mm	Inch	Mm
.006	.15	.469	11.91
.036	.91	.500	12.70
.063	1.60	1.0	25.40
.094	2.39	1.375	34.93
.188	4.78	1.750	44.45
.313	7.95	1.875	47.63
.344	8.74	2.000	50.80
.375	9.53		

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. These styles shall be untapped.
4. The end of the resistor body is the point where the diameter reduces to 0.06 inch.

FIGURE 1. Styles RW55, RW56, RW67, RW68, and RW69.

MIL-PRF-26/4E

- 3.6 Thermal shock. The resistors shall not change in resistance in excess of $\pm(2$ percent +0.05 ohm).
- 3.7 Short-time overload. The resistors shall not change in resistance in excess of $\pm(2$ percent +0.05 ohm).
- 3.8 High-temperature exposure. The resistors shall not change in resistance in excess of $\pm(2$ percent +0.05 ohm).
- 3.9 Moisture resistance. The resistors shall not change in resistance in excess of $\pm(2$ percent +0.05 ohm).
- 3.10 Low-temperature storage. The resistors shall not change in resistance in excess of $\pm(2$ percent +0.05 ohm).
- 3.11 Life. The resistors shall not change in resistance in excess of $\pm(3$ percent +0.05 ohm).
- 3.12 Solderability. Solderability is applicable to this specification.
- 3.13 Terminal strength. The resistors shall not change in excess of $\pm(1$ percent +.05 ohm).
- 3.14 Dielectric withstanding voltage (barometric pressure, reduced, not applicable). The resistors shall not change in resistance in excess of $\pm(.1$ percent +0.05 ohm).
- 3.15 Shock (medium impact). The resistors shall not change in resistance in excess of $\pm(.2$ percent +.05 ohm).
- 3.16 Vibration (high frequency). The resistors shall not change in resistance in excess of $\pm(.2$ percent +.05 ohm).

4. VERIFICATION

- 4.1 Sampling and inspection. Sampling and inspection shall be in accordance with MIL-PRF-26.
- 4.2 Barometric pressure (reduced). The magnitude of test voltage shall be 300 volts rms at 100,000 feet for styles RW55, RW56, RW67, and RW68. For style RW69, the test voltage shall be 200 volts rms at 100,000 feet.
- 4.3 Short-time overload. The short time overload shall be 5 times rated wattage for 5 seconds for style RW69, and 10 times rated wattage for 5 seconds for styles RW55, RW56, RW67, and RW68.

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 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 Departments 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-26 are applicable to this specification.

6.2 Acquisition requirements. Acquisition requirements are as specified in MIL-PRF-26.

6.3 Derating. Resistors shall be derated, when necessary, in accordance with figure 2.

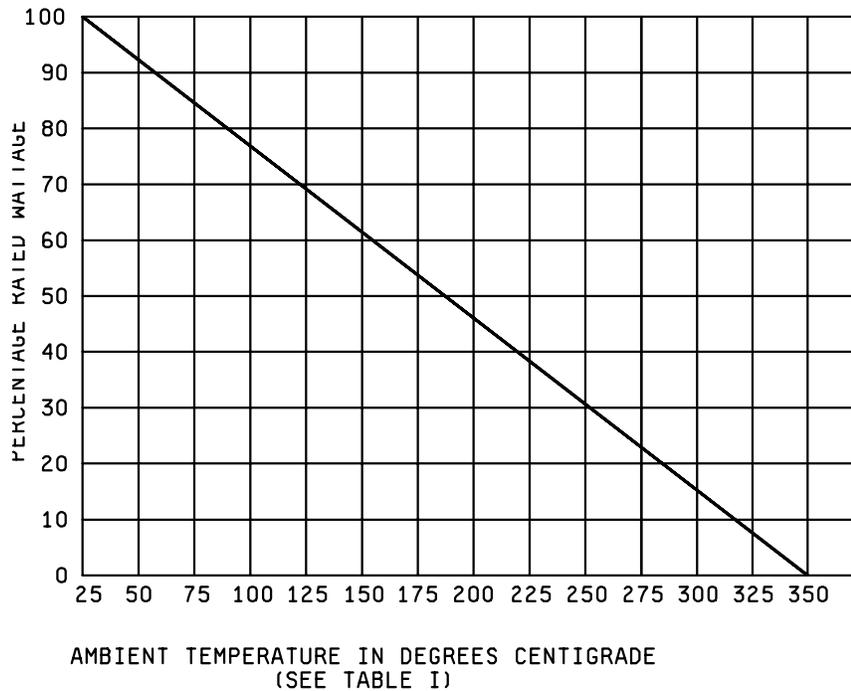


FIGURE 2. Derating curve for high ambient temperatures.

6.4 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.

MIL-PRF-26/4E

Custodians:

Army - CR
Navy - EC
Air Force - 11
DLA - CC

Preparing activity:

DLA - CC

(Project 5905-1601-02)

Review activities:

Army - MI
Navy - AS
Air Force - 19