INCH-POUND

MIL-PRF-39009/1D
w/ Amendment 1
13 May 2015
SUPERSEDING
MIL-PRF-39009/1D
5 November 2010

PERFORMANCE SPECIFICATION SHEET

RESISTOR, FIXED, WIRE-WOUND, (POWER TYPE, CHASSIS MOUNTED), NONESTABLISHED RELIABILITY, AND ESTABLISHED RELIABILITY, STYLES RER60, RER65, RER70, AND RER75

This specification is approved for 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-39009.

1. SCOPE

1.1 Scope. This specification covers the associated requirements for nonestablished reliability and established reliability styles RER60, RER65, RER70, and RER75 resistors. These resistors are inductively 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, resistance, resistance tolerance, and product level designator. The PIN is derived in accordance with MIL-PRF-39009 and is in the following form:

RER65	F	1001	S
Style	Resistance tolerance	Resistance	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 section 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 user 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 cited in the solicitation or contract.

DEPARTMENT OF DEFENSE SPECIFICATIONS

MIL-PRF-39009 - Resistor, Fixed, Wire-wound (Power Type, Chassis Mounted), Nonestablished Reliability, and Established Reliability, GSF.

* (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, 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

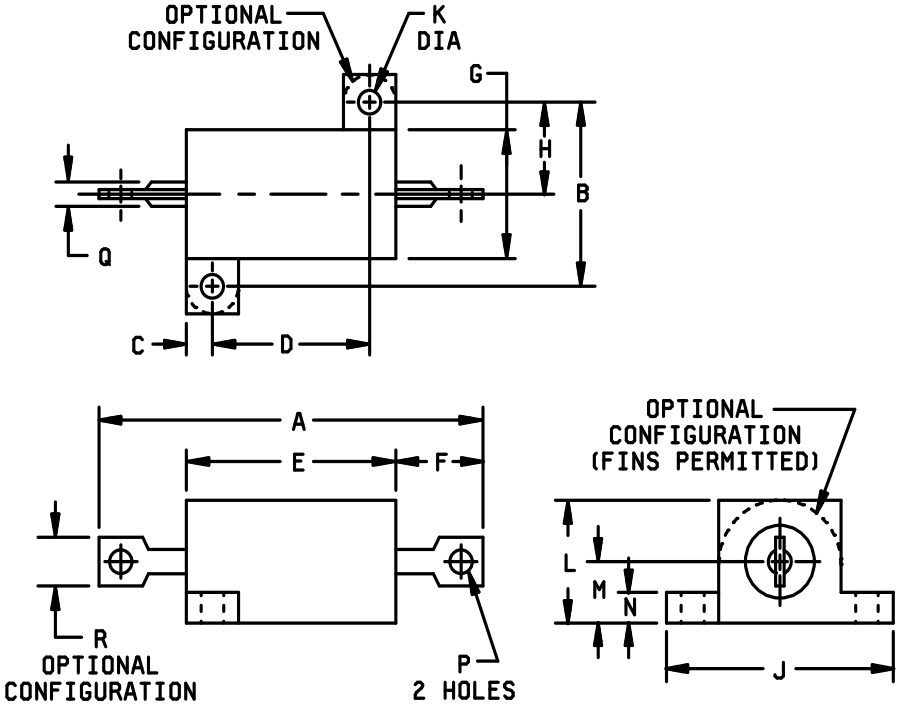
3.1 General. The requirements for acquiring the product described herein shall consist of this document and MIL-PRF-39009.

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

3.2.1 Weight. The maximum weight shall be as specified in table I.

TABLE I. Weight.

Resistor style	Weight (grams, maximum)
RER60	3
RER65	8
RER70	15
RER75	32



Resistor style	A ±.062 (1.57)	B ±.010 (0.25)	C ±.031 (0.79)	D ±.010 (0.25)	E ±.062 (1.57)	F ±.062 (1.57)	G ±.062 (1.57)	H ±.031 (0.79)	J ±.031 (0.79)	K ±.005 (0.13)	L ±.031 (0.79)	M ±.062 (1.57)	N ±.031 (0.79)	P ±.005 (0.79)	Q min AWG	R min
RER60	1.125 (28.58)	0.490 (12.45)	0.078 (1.98)	0.444 (11.28)	0.600 (15.24)	0.266 (6.76)	0.334 (8.48)	0.245 (6.22)	0.646 (16.41)	0.093 (2.36)	0.320 (8.13)	0.133 (3.38)	0.065 (1.65)	0.050 (1.27)	16	0.085 (2.16)
RER65	1.375 (34.93)	0.625 (15.88)	0.094 (2.39)	0.562 (14.27)	0.750 (19.05)	0.312 (7.92)	0.438 (11.13)	0.312 (7.92)	0.812 (20.62)	0.094 (2.39)	0.406 (10.31)	0.203 (5.16)	0.094 (2.39)	0.085 (2.16)	12	0.140 (3.56)
RER70	1.938 (49.23)	0.781 (19.84)	0.172 (4.37)	0.719 (18.26)	1.062 (26.97)	0.438 (11.13)	0.531 (13.49)	0.391 (9.93)	1.094 (27.79)	0.125 (3.18)	0.562 (14.27)	0.281 (7.14)	0.094 (2.39)	0.085 (2.16)	12	0.140 (3.56)
RER75	2.781 (70.64)	0.844 (21.44)	0.188 (4.78)	1.562 (39.67)	1.938 (49.23)	0.438 (11.13)	0.594 (15.09)	0.422 (10.72)	1.156 (29.36)	0.125 (3.18)	0.625 (15.88)	0.312 (7.92)	0.094 (2.39)	0.085 (2.16)	12	0.140 (3.56)

NOTES:
1. All dimensions are in inches.
2. Metric equivalents (to the nearest .01 mm) are given for general information only.
3. Millimeters are in parentheses.

FIGURE 1. Styles RER60, RER65, RER70, and RER75 (inductively wound) resistors.

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, when mounted on the chassis specified in 4.4 (see 6.5).

TABLE II. Power rating.

Resistor style	Power rating (watts)
RER60	5
RER65	10
RER70	20
RER75	30

3.3.1 Power rating (free air). The free air (resistor not mounted on a chassis) power rating based on full load operation at 25 °C shall be as specified in table III.

TABLE III. Power rating (free air).

Resistor style	Power rating (watts)
RER60	3
RER65	6
RER70	8
RER75	10

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

TABLE IV. Minimum and maximum nominal resistance values.

Resistor style	Resistance values	
	Minimum	Maximum
	Ohms	Ohms
RER60	0.10	3,320
RER65	0.10	5,620
RER70	0.10	12,100
RER75	0.10	39,200

4. VERIFICATION

4.1 Sampling and inspection. Sampling and inspection shall be in accordance with MIL-PRF-39009 and as specified herein.

4.2 Dielectric withstanding voltage.

4.2.1 At atmospheric pressure. The magnitude of the test voltage shall be as specified in table V.

TABLE V. Dielectric withstanding voltages at atmospheric pressure.

Resistor style	Dielectric withstanding test voltage
	Volts (rms)
RER60	1,000
RER65	1,000
RER70	1,000
RER75	2,000

4.2.2 At reduced barometric pressure. The magnitude of the test voltage shall be 500 volts.

4.3 Terminal strength. The direct pull shall be as specified in table VI.

TABLE VI. Direct pull.

Resistor style	Direct pull (pounds)
RER60	5 +0, -1/4
RER65	5 +0, -1/4
RER70	10 +0, -1/2
RER75	10 +0, -1/2

4.4 Chassis dimensions. The chassis dimensions shall be as specified in table VII.

TABLE VII. Chassis dimensions.

Resistor style	Length, width, and height	Thickness
	Inches	Inch
RER60	6 x 4 x 2	.04
RER65	6 x 4 x 2	.04
RER70	7 x 5 x 2	.04
RER75	7 x 5 x 2	.04

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 materiel 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 activity within the Military Department 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 Intended use. In addition to the notes specified herein, the notes specified in MIL-PRF-39009 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. 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.

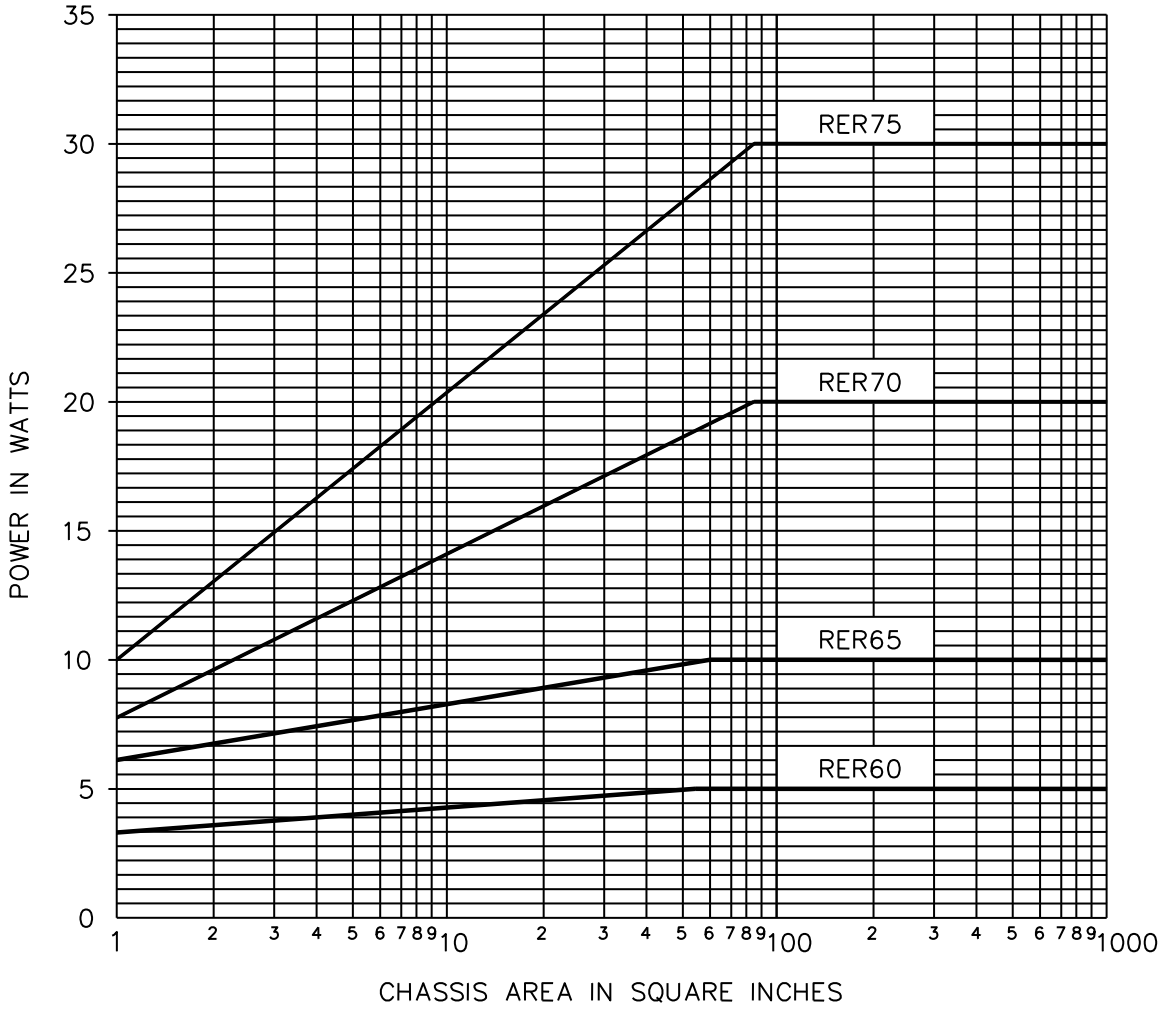
c. Packaging requirements (see 5.1).

6.3 MIL-R-18546/1 substitution data. Resistors of this specification, regardless of their failure rate (FR) designation, are substitutes for resistors of the same resistance value and characteristic G as specified in the inactivated specification MIL-R-18546/1 as in accordance with table VIII.

TABLE VIII. Substitution data.

MIL-R-18546/1 characteristic G (Inductive)	Substitute MIL-PRF-39009/1
Style	Style
RE60	RER60
RE65	RER65
RE70	RER70
RE75	RER75

6.3.1 Interchangeability. The increase in power rating for RER70 by this revision does not require the assignment of new Federal Stock Numbers for items previously described as RE70, 15 watt rating. Items in this specification are mutually interchangeable with items of the same type designation procured under MIL-R-39009/1A.



NOTE: The chassis derating curves are based on the full power ratings at an ambient temperature of 25 °C. These curves are independent of the temperature derating curves.

FIGURE 2. Chassis area derating curves.

6.4 Chassis area derating curves. Figure 2 may be used for design information.

6.5 Change in power rating RER70. The revision of style RER70 to 20 watts from the previous 15 watt rating is based on qualification of similar style RE70 under MIL-R-18546. In addition, the accumulated FR component hours at 15 watts have been halved for qualification FR level retention. Until sufficient hours are established at 20 watts, the Qualified Products List will continue to list FR levels at the previous 15 watt rating, and in addition, the FR level at the 20 watt rating

* 6.6 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.

Custodians:
Army - CR
Navy - EC
Air Force - 85
DLA - CC

Review activities:
Army - AR, AT, CR4, MI
Navy – AS, CG, MC, OS
Air Force - 19

Preparing activity:
Army - CR

Agent:
DLA - CC

(Project 5905-2015-024)

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