

INCH-POUND

MIL-R-22684/1B
w/Amendment 2
27 May 2016
SUPERSEDING
MIL-R-22684/1B
w/Amendment 1
5 February 2009

MILITARY SPECIFICATION

RESISTOR, FIXED, FILM, INSULATED, STYLE RL07

This specification is inactive for design after 21 November 1968. Use [MIL-PRF-39017/1](#).

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-22684](#).

1. SCOPE

1.1 Scope. This specification covers the associated requirements for insulated, film, fixed resistors of 2-percent and 5-percent resistance tolerance. These resistors are capable of full-load operation at an ambient temperature of 70°C and have a resistance-temperature characteristic of ± 200 parts per million per degree Celsius (ppm/°C). Designers are CAUTIONED on using these resistors in high power pulse applications (see [6.3](#)).

1.2 Part or Identifying Number (PIN). Resistors covered by this specification are identified by a PIN which consists of the basic number of this specification and a coded dash number taken from [table I](#). The PIN is in the following form:

<u>M22684/01</u>	-	<u>1001</u>
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Performance specification number		Coded dash number

The coded dash number is derived in accordance with paragraph 6.2.2 of [MIL-PRF-22684](#).

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.

Comments, suggestions, or questions on this document should be addressed to: DLA Land and Maritime, ATTN: VAT, Post Office Box 3990, Columbus, Ohio 43218-3990 or by email resistor@dlam.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



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 SPECIFICATION

MIL-PRF-22684 - Resistor, Fixed, Film (Insulated), General Specification.

(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, 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-22684.

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

3.3 Power rating. The power rating shall be 1/4 watt based on full load operation at an ambient temperature of 70°C.

3.4 Voltage rating. The maximum continuous working voltage shall not exceed 250 volts.

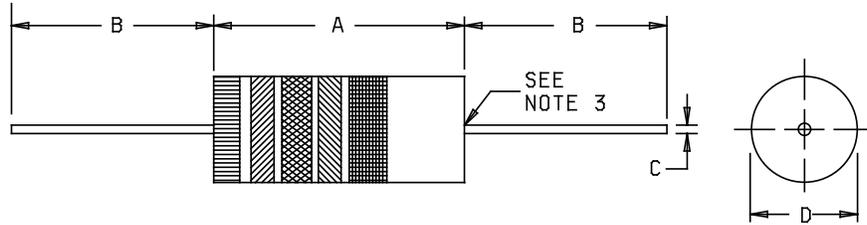
3.5 Resistance values and resistance tolerances. The minimum and maximum standard resistance values and associated resistance tolerances shall be as listed in table I.

3.6 Terminal type. The terminal type available shall be in accordance with MIL-PRF-22684 and table I.

3.7 Dielectric withstanding voltage. Resistors shall be tested as specified in MIL-PRF-22684. The magnitude of test voltage shall be as follows:

Atmospheric pressure	-	500 volts rms
Barometric pressure	-	325 volts rms

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	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	.205	.281	5.56	7.14
B	1.375	1.625	34.92	41.28
C	.019	.027	0.48	0.68
D	.082	.098	2.08	2.49

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. The end of the body shall be that point at which the diameter equals the nearest drill size larger than 250 percent of the nominal lead diameter. The leads shall be solderable to within .125 inch (3.18 mm) of the resistor body.

FIGURE 1. Configuration and dimensions.

3.8 Insulation resistance. Resistors shall be tested as specified in MIL-PRF-22684 except the insulation resistance shall be not less than 100 megohms.

3.9 Moisture resistance. Resistors shall be tested as specified in MIL-PRF-22684 except the change in resistance shall not exceed 1.5 percent.

3.10 Life. Resistors shall be tested as specified in MIL-PRF-22684 except the change in resistance shall not exceed 2.0 percent.

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Table I. PIN designation. (M22684/01-)

Dash No.	Type designation	Resistance tolerance (percent)	Nominal total resistance value (in Ohms)	Terminal	Dash No.	Type designation	Resistance tolerance (percent)	Nominal total resistance value (in Ohms)	Terminal
0001	RL07S510G	2	51	S	0053	RL07S621G	2	620	S
0002	RL07S510J	5							
0003	RL07S560G	2	56		0054	RL07S621J	5		
0004	RL07S560J	5							
0005	RL07S620G	2	62		0055	RL07S681G	2	680	
0006	RL07S620J	5							
0007	RL07S680G	2	68		0056	RL07S681J	5		
0008	RL07S680J	5							
0009	RL07S750G	2	75		0057	RL07S751G	2	750	
0010	RL07S750J	5							
0011	RL07S820G	2	82		0058	RL07S751J	5		
0012	RL07S820J	5							
0013	RL07S910G	2	91		0059	RL07S821G	2	820	
0014	RL07S910J	5							
0015	RL07S101G	2	100		0060	RL07S821J	5		
0016	RL07S101J	5							
0017	RL07S111G	2	110		0061	RL07S911G	2	910	
0018	RL07S111J	5							
0019	RL07S121G	2	120		0062	RL07S911J	5		
0020	RL07S121J	5							
0021	RL07S131G	2	130		0063	RL07S102G	2	1,000	
0022	RL07S131J	5							
0023	RL07S151G	2	150		0064	RL07S102J	5		
0024	RL07S151J	5							
0025	RL07S161G	2	160		0065	RL07S112G	2	1,100	
0026	RL07S161J	5							
0027	RL07S181G	2	180		0066	RL07S112J	5		
0028	RL07S181J	5							
0029	RL07S201G	2	200		0067	RL07S122G	2	1,200	
0030	RL07S201J	5							
0031	RL07S221G	2	220		0068	RL07S122J	5		
0032	RL07S221J	5							
0033	RL07S241G	2	240		0069	RL07S132G	2	1,300	
0034	RL07S241J	5							
0035	RL07S271G	2	270		0070	RL07S132J	5		
0036	RL07S271J	5							
0037	RL07S301G	2	300		0071	RL07S152G	2	1,500	
0038	RL07S301J	5							
0039	RL07S331G	2	330		0072	RL07S152J	5		
0040	RL07S331J	5							
0041	RL07S361G	2	360		0073	RL07S162G	2	1,600	
0042	RL07S361J	5							
0043	RL07S391G	2	390		0074	RL07S162J	5		
0044	RL07S391J	5							
0045	RL07S431G	2	430		0075	RL07S182G	2	1,800	
0046	RL07S431J	5							
0047	RL07S471G	2	470		0076	RL07S182J	5		
0048	RL07S471J	5							
0049	RL07S511G	2	510		0077	RL07S202G	2	2,000	
0050	RL07S511J	5							
0051	RL07S561G	2	560	0078	RL07S202J	5	2,000		
0052	RL07S561J	5							
					0079	RL07S222G	2	2,200	
					0080	RL07S222J	5		
					0081	RL07S242G	2	2,400	
					0082	RL07S242J	5		
					0083	RL07S272G	2	2,700	
					0084	RL07S272J	5		
					0085	RL07S302G	2	3,000	
					0086	RL07S302J	5		
					0087	RL07S332G	2	3,300	
					0088	RL07S332J	5		
					0089	RL07S362G	2	3,600	
					0090	RL07S362J	5		
					0091	RL07S392G	2	3,900	
					0092	RL07S392J	5		
					0093	RL07S432G	2	4,300	
					0094	RL07S432J	5		
					0095	RL07S472G	2	4,700	
					0096	RL07S472J	5		
					0097	RL07S512G	2	5,100	
					0098	RL07S512J	5		
					0099	RL07S562G	2	5,600	
					0100	RL07S562J	5		
					0101	RL07S622G	2	6,200	
					0102	RL07S622J	5		
					0103	RL07S682G	2	6,800	
					0104	RL07S682J	5		

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Table I. PIN designation (M22684/01-) - continued.

Dash No.	Type designation	Resistance tolerance (percent)	Nominal total resistance value (in Ohms)	Terminal	Dash No.	Type designation	Resistance tolerance (percent)	Nominal total resistance value (in Ohms)	Terminal
0105	RL07S752G	2	7,500	S	0137	RL07S363G	2	36,000	S
0106	RL07S752J	5			0138	RL07S363J	5		
0107	RL07S822G	2	8,200		0139	RL07S393G	2	39,000	
0108	RL07S822J	5			0140	RL07S393J	5		
0109	RL07S912G	2	9,100		0141	RL07S433G	2	43,000	
0110	RL07S912J	5			0142	RL07S433J	5		
0111	RL07S103G	2	10,000		0143	RL07S473G	2	47,000	
0112	RL07S103J	5			0144	RL07S473J	5		
0113	RL07S113G	2	11,000		0145	RL07S513G	2	51,000	
0114	RL07S113J	5			0146	RL07S513J	5		
0115	RL07S123G	2	12,000		0147	RL07S563G	2	56,000	
0116	RL07S123J	5			0148	RL07S563J	5		
0117	RL07S133G	2	13,000		0149	RL07S623G	2	62,000	
0118	RL07S133J	5			0150	RL07S623J	5		
0119	RL07S153G	2	15,000		0151	RL07S683G	2	68,000	
0120	RL07S153J	5			0152	RL07S683J	5		
0121	RL07S163G	2	16,000		0153	RL07S753G	2	75,000	
0122	RL07S163J	5			0154	RL07S753J	5		
0123	RL07S183G	2	18,000		0155	RL07S823G	2	82,000	
0124	RL07S183J	5			0156	RL07S823J	5		
0125	RL07S203G	2	20,000		0157	RL07S913G	2	91,000	
0126	RL07S203J	5			0158	RL07S913J	5		
0127	RL07S223G	2	22,000		0159	RL07S104G	2	100,000	
0128	RL07S223J	5			0160	RL07S104J	5		
0129	RL07S243G	2	24,000		0161	RL07S114G	2	110,000	
0130	RL07S243J	5			0162	RL07S114J	5		
0131	RL07S273G	2	27,000		0163	RL07S124G	2	120,000	
0132	RL07S273J	5			0164	RL07S124J	5		
0133	RL07S303G	2	30,000		0165	RL07S134G	2	130,000	
0134	RL07S303J	5			0166	RL07S134J	5		
0135	RL07S333G	2	33,000		0167	RL07S154G	2	150,000	
0136	RL07S333J	5			0168	RL07S154J	5		

4. VERIFICATION

4.1 Sampling and inspection. Sampling and inspection procedures shall be in accordance with Group A inspection and Group B inspection of [MIL-PRF-22684](#) and as specified herein.

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 Service or Defense Agency, or within the military services 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 The notes specified in [MIL-PRF-22684](#) are applicable to this specification.

6.2 Acquisition requirements. Acquisition documents must specify the following:

- a. Title, number, date of this specification, and 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.

6.3 Pulse applications. Designers are CAUTIONED on using these resistors in high power pulse applications. Since they have not been qualified nor tested for such applications, damage and premature failure are possible. These resistors only see a one-time pulse (Short-time overload) as part of the group B inspection of this specification. Designers MAY CONSIDER using DLA Land and Maritime drawings [03004](#) for high power pulse applications.

6.4 Amendment notification. The margins of this specification are marked with vertical lines to indicate modification 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 and relationship.

Custodians:

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

Preparing activity:
DLA - CC

(Project 5905-2016-044)

Review activities:

Army - AR, MI
Air Force - 19

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.dla.mil>.