INCH-POUND
MIL-R-22684/4B
w/Amendment 2
27 May 2016
SUPERSEDING
MIL-R-22684/4B
w/Amendment 1
5 February 2009

RESISTOR, FIXED, FILM, INSULATED, STYLE RL42

This specification is inactive for design after 5 October 1972. Use MIL-PRF-22684/8.

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:

M22684/04-	-	1001
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@dla.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 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 2 watts based on full load operation at an ambient temperature of 70°C.

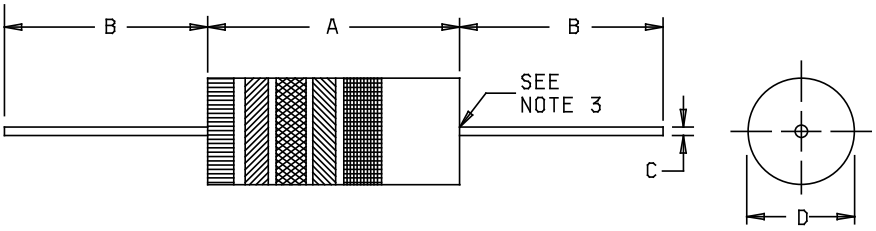
3.4 Voltage rating. The maximum continuous working voltage shall not exceed 500 volts.

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	-	1,000 volts rms
Barometric pressure	-	500 volts rms



Ltr	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.648	0.728	16.46	18.49
B	1.375	1.625	34.92	41.28
C	0.040	0.050	1.02	1.27
D	0.280	0.336	7.11	8.53

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 2.0 percent.

3.10 Life. Resistors shall be tested as specified in MIL-PRF-22684 except the change in resistance shall not exceed 3.0 percent.

Table I. PIN designation. (M22684/04-)

Dash No.	Type Designation	Resistance tolerance (percent)	Nominal total resistance value (in Ohms)	Terminal
0001	RL42S100G	2	10	S
0002	RL42S100J	5		
0003	RL42S110G	2	11	
0004	RL42S110J	5		
0005	RL42S120G	2	12	
0006	RL42S120J	5		
0007	RL42S130G	2	13	
0008	RL42S130J	5		
0009	RL42S150G	2	15	
0010	RL42S150J	5		
0011	RL42S160G	2	16	
0012	RL42S160J	5		
0013	RL42S180G	2	18	
0014	RL42S180J	5		
0015	RL42S200G	2	20	
0016	RL42S200J	5		
0017	RL42S220G	2	22	
0018	RL42S220J	5		
0019	RL42S240G	2	24	
0020	RL42S240J	5		
0021	RL42S270G	2	27	
0022	RL42S270J	5		
0023	RL42S300G	2	30	
0024	RL42S300J	5		
0025	RL42S330G	2	33	
0026	RL42S330J	5		
0027	RL42S360G	2	36	
0028	RL42S360J	5		
0029	RL42S390G	2	39	
0030	RL42S390J	5		
0031	RL42S430G	2	43	
0032	RL42S430J	5		
0033	RL42S470G	2	47	
0034	RL42S470J	5		
0035	RL42S510G	2	51	
0036	RL42S510J	5		
0037	RL42S560G	2	56	
0038	RL42S560J	5		
0039	RL42S620G	2	62	
0040	RL42S620J	5		
0041	RL42S680G	2	68	
0042	RL42S680J	5		
0043	RL42S750G	2	75	
0044	RL42S750J	5		
0045	RL42S820G	2	82	
0046	RL42S820J	5		
0047	RL42S910G	2	91	
0048	RL42S910J	5		
0049	RL42S101G	2	100	
0050	RL42S101J	5		
0051	RL42S111G	2	110	
0052	RL42S111J	5		
0053	RL42S121G	2	120	
0054	RL42S121J	5		
0055	RL42S131G	2	130	
0056	RL42S131J	5		
0057	RL42S151G	2	150	
0058	RL42S151J	5		
0059	RL42S161G	2	160	
0060	RL42S161J	5		
0061	RL42S181G	2	180	
0062	RL42S181J	5		
0063	RL42S201G	2	200	
0064	RL42S201J	5		
0065	RL42S221G	2	220	
0066	RL42S221J	5		
0067	RL42S241G	2	240	
0068	RL42S241J	5		
0069	RL42S271G	2	270	
0070	RL42S271J	5		
0071	RL42S301G	2	300	
0072	RL42S301J	5		
0073	RL42S331G	2	330	
0074	RL42S331J	5		
0075	RL42S361G	2	360	
0076	RL42S361J	5		
0077	RL42S391G	2	390	
0078	RL42S391J	5		
0079	RL42S431G	2	430	
0080	RL42S431J	5		
0081	RL42S471G	2	470	
0082	RL42S471J	5		
0083	RL42S511G	2	510	
0084	RL42S511J	5		
0085	RL42S561G	2	560	
0086	RL42S561J	5		
0087	RL42S621G	2	620	
0088	RL42S621J	5		
0089	RL42S681G	2	680	
0090	RL42S681J	5		
0091	RL42S751G	2	750	
0092	RL42S751J	5		
0093	RL42S821G	2	820	
0094	RL42S821J	5		
0095	RL42S911G	2	910	
0096	RL42S911J	5		
0097	RL42S102G	2	1,000	
0098	RL42S102J	5		
0099	RL42S112G	2	1,100	
0100	RL42S112J	5		
0101	RL42S122G	2	1,200	
0102	RL42S122J	5		
0103	RL42S132G	2	1,300	
0104	RL42S132J	5		

Table I. PIN designation. (M22684/04-) - continued.

Dash No.	Type Designation	Resistance tolerance (percent)	Nominal total resistance value (in Ohms)	Terminal
0105	RL42S152G	2	1,500	S
0106	RL42S152J	5		
0107	RL42S162G	2	1,600	
0108	RL42S162J	5		
0109	RL42S182G	2	1,800	
0110	RL42S182J	5		
0111	RL42S202G	2	2,000	
0112	RL42S202J	5		
0113	RL42S222G	2	2,200	
0114	RL42S222J	5		
0115	RL42S242G	2	2,400	
0116	RL42S242J	5		
0117	RL42S272G	2	2,700	
0118	RL42S272J	5		
0119	RL42S302G	2	3,000	
0120	RL42S302J	5		
0121	RL42S332G	2	3,300	
0122	RL42S332J	5		
0123	RL42S362G	2	3,600	
0124	RL42S362J	5		
0125	RL42S392G	2	3,900	
0126	RL42S392J	5		
0127	RL42S432G	2	4,300	
0128	RL42S432J	5		
0129	RL42S472G	2	4,700	
0130	RL42S472J	5		
0131	RL42S512G	2	5,100	
0132	RL42S512J	5		
0133	RL42S562G	2	5,600	
0134	RL42S562J	5		
0135	RL42S622G	2	6,200	
0136	RL42S622J	5		
0137	RL42S682G	2	6,800	
0138	RL42S682J	5		
0139	RL42S752G	2	7,500	
0140	RL42S752J	5		
0141	RL42S822G	2	8,200	
0142	RL42S822J	5		
0143	RL42S912G	2	9,100	
0144	RL42S912J	5		
0145	RL42S103G	2	10,000	
0146	RL42S103J	5		
0147	RL42S113G	2	11,000	
0148	RL42S113J	5		
0149	RL42S123G	2	12,000	
0150	RL42S123J	5		
0151	RL42S133G	2	13,000	
0152	RL42S133J	5		
0153	RL42S153G	2	15,000	
0154	RL42S153J	5		
0155	RL42S163G	2	16,000	
0156	RL42S163J	5		
0157	RL42S183G	2	18,000	
0158	RL42S183J	5		
0159	RL42S203G	2	20,000	
0160	RL42S203J	5		
0161	RL42S223G	2	22,000	
0162	RL42S223J	5		
0163	RL42S243G	2	24,000	
0164	RL42S243J	5		
0165	RL42S273G	2	27,000	
0166	RL42S273J	5		
0167	RL42S303G	2	30,000	
0168	RL42S303J	5		
0169	RL42S333G	2	33,000	
0170	RL42S333J	5		
0171	RL42S363G	2	36,000	
0172	RL42S363J	5		
0173	RL42S393G	2	39,000	
0174	RL42S393J	5		
0175	RL42S433G	2	43,000	
0176	RL42S433J	5		
0177	RL42S473G	2	47,000	
0178	RL42S473J	5		
0179	RL42S513G	2	51,000	
0180	RL42S513J	5		
0181	RL42S563G	2	56,000	
0182	RL42S563J	5		
0183	RL42S623G	2	62,000	
0184	RL42S623J	5		
0185	RL42S683G	2	68,000	
0186	RL42S683J	5		
0187	RL42S753G	2	75,000	
0188	RL42S753J	5		
0189	RL42S823G	2	82,000	
0190	RL42S823J	5		
0191	RL42S913G	2	91,000	
0192	RL42S913J	5		
0193	RL42S104G	2	100,000	
0194	RL42S104J	5		
0195	RL42S114G	2	110,000	
0196	RL42S114J	5		
0197	RL42S124G	2	120,000	
0198	RL42S124J	5		
0199	RL42S134G	2	130,000	
0200	RL42S134J	5		
0201	RL42S154G	2	150,000	
0202	RL42S154J	5		
0203	RL42S164G	2	160,000	
0204	RL42S164J	5		
0205	RL42S184G	2	180,000	
0206	RL42S184J	5		
0207	RL42S204G	2	200,000	
0208	RL42S204J	5		

Table I. PIN designation (M22684/04-) - continued.

Dash No.	Type Designation	Resistance tolerance (percent)	Nominal total resistance value (in Ohms)	Terminal
0209	RL42S224G	2	220,000	S
0210	RL42S224J	5		
0211	RL42S244G	2	240,000	
0212	RL42S244J	5		
0213	RL42S274G	2	270,000	
0214	RL42S274J	5		
0215	RL42S304G	2	300,000	
0216	RL42S304J	5		
0217	RL42S334G	2	330,000	
0218	RL42S334J	5		
0219	RL42S364G	2	360,000	
0220	RL42S364J	5		
0221	RL42S394G	2	390,000	
0222	RL42S394J	5		
0223	RL42S434G	2	430,000	
0224	RL42S434J	5		
0225	RL42S474G	2	470,000	
0226	RL42S474J	5		
0227	RL42S514G	2	510,000	
0228	RL42S514J	5		
0229	RL42S564G	2	560,000	
0230	RL42S564J	5		

Dash No.	Type Designation	Resistance tolerance (percent)	Nominal total resistance value (in Ohms)	Terminal
0231	RL42S624G	2		S
0232	RL42S624J	5		
0233	RL42S684G	2	680,000	
0234	RL42S684J	5		
0235	RL42S754G	2	750,000	
0236	RL42S754J	5		
0237	RL42S824G	2	820,000	
0238	RL42S824J	5		
0239	RL42S914G	2	910,000	
0240	RL42S914J	5		
0241	RL42S105G	2	1,000,000	
0242	RL42S105J	5		
0243	RL42S115G	2	1,100,000	
0244	RL42S115J	5		
0245	RL42S125G	2	1,200,000	
0246	RL42S125J	5		
0247	RL42S135G	2	1,300,000	
0248	RL42S135J	5		
0249	RL42S155G	2	1,500,000	
0250	RL42S155J	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 drawing 03008 for high power pulse applications.

6.4 Amendment notations. 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 5905-2016-047

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

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