

PERFORMANCE SPECIFICATION

RESISTORS, FIXED, FILM,  
NON-ESTABLISHED RELIABILITY, ESTABLISHED RELIABILITY, AND SPACE LEVEL,  
GENERAL SPECIFICATION FOR

This amendment forms a part of MIL-PRF-55182G, dated 9 June 1997, and is approved for use by all Departments and Agencies of the Department of Defense.

PAGE 6

3.4, delete and substitute:

"3.4 Materials. Materials shall be used which will enable the resistors to meet the performance requirements of this specification. Acceptance or approval of any constituent material shall not be construed as a guaranty of the acceptance of the finished product."

PAGE 14

TABLE X, characteristic substitution column, delete "J, K" and substitute "J, H".

PAGE 16 and PAGE 17

TABLE XI, delete and substitute:

"TABLE XI. Qualification inspection.

Inspection	Requirements paragraph	Method paragraph	Number of samples	Number of defects permitted
<u>Certification requirements</u>				
Aqueous-extract-conductivity <u>1/</u>	3.5.1	4.8.27		
Flux <u>1/</u>	3.5.4			<u>2/</u>
Outgassing (space level only)	3.32	4.8.26		
<u>Group I</u>				
Visual and mechanical examination <u>3/</u>	3.1, 3.4, 3.5, 3.5.1.1 through 3.5.3.2 inclusive, 3.5.5, 3.31, and 3.32	4.8.1	All sample units	N/A
Thermal shock <u>4/</u>	3.8	4.8.2		
Overload <u>4/</u>	3.9	4.8.3		
DC resistance <u>4/</u>	3.11	4.8.5		
Hermetic seal (when applicable) <u>4/</u>	3.12	4.8.6		

See footnotes at end of table.

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"TABLE XI. Qualification inspection. - Continued.

Inspection	Requirements paragraph	Method paragraph	Number of samples	Number of defects permitted
<u>Group IA</u>				
Solderability	3.13	4.8.7	12 sample units	0
Resistance to solvents	3.14	4.8.8		
<u>Group II</u>				
Resistance temperature characteristics	3.15	4.8.9	30 10 highest 10 critical 10 lowest	
Low temperature storage	3.29	4.8.23		
Low temperature operation	3.16	4.8.10		
Terminal strength	3.17	4.8.11		
Hermetic seal (when applicable)	3.12	4.8.6		
<u>Group III</u>				
Dielectric withstanding voltage	3.18	4.8.12	30 10 highest 10 critical 10 lowest	<u>5/</u> 1
Insulation resistance	3.19	4.8.13		
Resistance to soldering heat	3.20	4.8.14		
Moisture resistance	3.21	4.8.15		
<u>Group IV</u>				
Shock (specified pulse)	3.22	4.8.16	30 10 highest 10 critical 10 lowest	
Vibration, high frequency	3.23	4.8.17		
Hermetic seal (when applicable)	3.12	4.8.6		
<u>Group V</u>				
Life	3.24	4.8.18	102 34 highest 34 critical 34 lowest	1
<u>Group VA</u> <u>6/</u>				
+70°C power rating	3.24.3	4.8.18	102 34 highest 34 critical 34 lowest	1
<u>Group VI</u>				
High temperature exposure	3.25	4.8.19	<u>7/</u> 102 34 highest 34 critical 34 lowest	1
<u>Group VII</u>				
Voltage coefficient (applicable to resistors of 1,000 ohms and over)	3.26	4.8.20	10 highest	0
Fungus	3.27	4.8.21		
Mechanical shear (when applicable)	3.28	4.8.22		

See footnotes at end of table.

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"TABLE XI. Qualification inspection. - Continued.

Inspection	Requirements paragraph	Method paragraph	Number of samples	Number of defects permitted
<u>Group VIII (space level only)</u> Thermal shock (100 cycles)	3.8	4.8.2	10 highest 30 10 critical 10 lowest	0

- 1/ The manufacturer shall verify by certification that these requirements have been met in fabricating resistors furnished to this specification.
- 2/ Failure of a resistor in one or more tests of a group shall be charged as a single defect.
- 3/ Marking shall be considered defective if the marking is illegible or incorrect. The two additional unenclosed sample units shall be subjected to the visual and mechanical examination of group I only. Marking shall remain legible at the end of all tests.
- 4/ As an option, the manufacturer may perform group A, subgroup 1 tests with the required PDA in lieu of these tests.
- 5/ For characteristic C and characteristic E, zero failures are permitted in moisture resistance.
- 6/ The power rating shall be +70°C. Qualification inspection only.
- 7/ Ten sample units shall be subjected to dielectric withstanding voltage and insulation resistance following this test."

PAGE 23

TABLE XV, add the following to end of NOTE 1: "(NOTE: Not applicable to space level.)"

PAGE 27

TABLE XVII, delete and substitute:

"TABLE XVII. Overload.

Resistor style <u>1/</u>	Overload and duration	Maximum voltage (ac or dc)
		<u>Volts</u>
RNR50, RNR55, RNR57, RNR60	5 X rated power for 1 hour	500
RNR65	4 X rated power for 1 hour	600
RNR70	2.25 X rated power for 1 hour	700
RNR75	2.25 X rated power for 1 hour	1,000
RNR77	1.25 X rated power for 1 hour	1,000

- 1/ Third letter is variable, dependent upon lead material or capability."

PAGE 28

4.8.6.b, delete and substitute:

- "b. Group I qualification inspection and group A inspection: Method 112 of MIL-STD-202, test condition A or the manufacturer's own procedure, provided the hermetic seal test has been approved by the qualifying activity."

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PAGE 29

4.8.9.c, first sentence, delete "+1°C" and substitute "±3°C".

PAGE 31

4.8.14.c, after test condition C, delete "(+260°C ±5°C,10 seconds ±2 seconds)".

PAGE 42

\* 6.2.c, delete and substitute:

"c. Packaging requirements (see 5.1). (i.e. Electrostatic discharge (ESD) sensitive packaging)."

PAGE 43

\* Add new paragraph:

"6.4.1 Electrostatic charge. Under several combinations of conditions, these resistors can be electrically damaged, by electrostatic charges, and drift from specified value. Users should consider this phenomena when ordering or shipping resistors. Direct shipment to the Government is controlled by MIL-DTL-39032 which specifies a preventive packaging procedure."

PAGE 45

Add the new paragraph:

"A.3.3 Outgassing (space level only). Manufacturers shall validate to the qualifying activity the outgassing requirements as specified in 3.32."

Custodians:

Army - CR  
Navy - EC  
Air Force - 11  
NASA - NA

Preparing activity:

Army - CR

Agent:

DLA - CC

Review activities:

Army - AR  
Navy - AS, CG, MC, OS  
Air Force - 19, 99

(Project 5905-1597)