



QUALIFICATION TEST REPORT
Code Red, Sealed Light Weight
Hermetic Receptacle,
D38999/23 Type

No.:
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Rev.

GT-16-223 Abstract
April 6, 2017
1 of 7
B

1 **INTRODUCTION**

1.1 **Purpose**

Testing was performed on Glenair Code Red, Light Weight Hermetically Sealed receptacle connectors to determine their conformance to the performance requirements of MIL-DTL-38999/23.

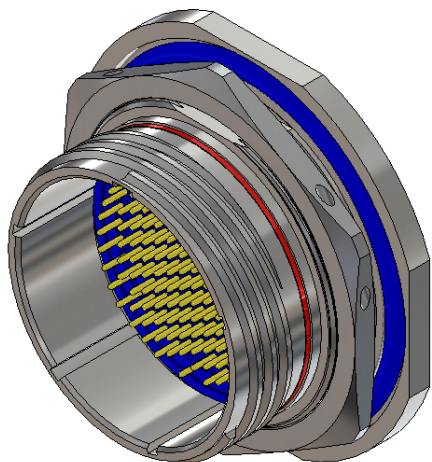
1.2 **Scope**

This report summarizes electrical, mechanical and environmental performance testing of Glenair Code Red, Light Weight Hermetically sealed receptacle connectors. The information in this report was obtained from tests conducted by Environmental Associates, Santa Ana, California, and Glenair, Glendale, California. These documents are on file at Glenair, Glendale California and are available upon request.

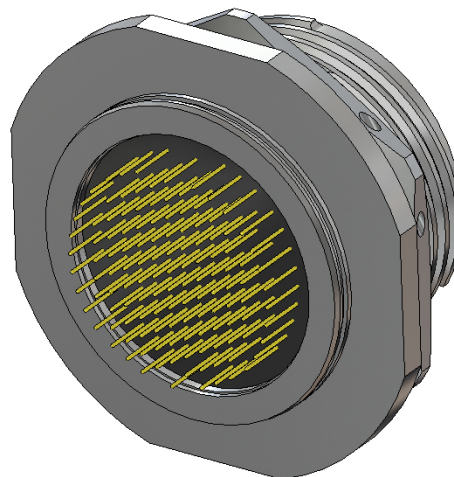
Testing Agency	Location	Date	Test Report Title	Test Report Number
Environment Associates	Santa Ana, CA	February 22, 2017	Environmental Test Report for the Light Weight Hermetic, Receptacle, Jam Nut, D38999/23 Style, PC Tail, Connector	OC26969-1019175
Glenair	Glendale, CA	December 8, 2016	Qualification Test Report for Light Weight Hermetic, Receptacle, Jam Nut, D38999/23 Style, PC Tail, Connector	GT-16-223

1.3 **Conclusion**

Glenair Code Red, Light Weight Hermetically Sealed connectors have been shown to be capable of meeting performance requirements of MIL-DTL-38999/23, Style C contacts.



Front View
D38999/23, Size 25-35, Pin



Rear View
D38999/23, Size 25-35, Pin



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2 SUMMARY OF QUALIFICATION TESTING

2.1 Visual and mechanical inspection

All specimens submitted for testing were representative of standard production lots. All specimens were accepted by Glenair Quality Assurance prior to submittal to testing.

2.2 Insulation Resistance at Ambient Temperature

Test Method

MIL-DTL-38999M Para. 4.5.10.1

EIA-364-21

@ 500 VDC

Requirement:

5,000 MΩ minimum; after humidity - 100 MΩ minimum

Results:

PASS. All specimens met the requirement.

2.3 Dielectric Withstanding Voltage at Sea Level

Test Method:

MIL-DTL-38999M Para. 4.5.11.1

EIA-364-20

Vrms, 60 Hz

Mated connectors

Requirement:

No breakdown or flashover, 2 mA maximum leakage current

Test voltages (service rating):

1,300 Vrms size 22 contact arrangements

1,800 Vrms size 20, 16 & 12 contact arrangements

Results:

PASS. All specimens met the requirement.

2.4 Contact Retention

Test Method

MIL-DTL-38999M Para. 4.5.20.1

EIA-364-29

Requirement

Axial loads are applied per table below, .012 inch maximum displacement is allowed.

Results

PASS. All samples met the requirement.

Contact Retention Test Data				
Contact Arrangement	Contact Size	Load ±10% (lbs.)	Contacts Tested	Maximum Measured Displacement (inches)
9-35	22	10	ALL	.0001 - .0010
15-97	20	15	A, B, D, E, F, H, J, K	.0020 - .0030
15-97	16	25	C, G, L, M	.0040 - .0045
17-06	12	25	ALL	.0035 - .0045
25-08	8	25	ALL	.0025 - .0040



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2.5 Temperature Cycling (10 cycles)

Test Method

MIL-DTL-38999M Para. 4.5.4

EIA-364-32

Requirement

No signs of damage detrimental to connector operation after 10 cycles of temperature cycling.

Temperature extremes -65°C and +200°C.

30 minutes dwell time at each extreme.

Results

PASS. No specimens showed signs of damage.

2.6 Air Leakage

Test Method

MIL-DTL-38999M Para. 4.5.6

EIA-364-02

Requirement

Leak rate 1×10^{-7} cc/sec Helium @ 1 atm. Maximum.

Results

PASS. No test samples showed evidence of damage.

2.7 Insert Retention

Test Method

MIL-DTL-38999M Para. 4.5.12

EIA-364-35

Requirement

No evidence of cracking, breaking, separation from the shell, or loosening of parts when a pressure of 100 ±5 pounds per square inch is applied in both directions (alternative minimum force 25 pounds).

Results

PASS. No test samples showed evidence of damage.

2.8 High Temperature Exposure

Test Method

MIL-DTL-38999M Para. 4.5.32.2

Requirement

Connectors shall perform satisfactorily and pass succeeding tests.

1,000 hours at +200°C

Results

PASS. All specimens met the requirement.

2.9 Temperature Cycling (100 cycles)

Test Method

MIL-DTL-38999M Para. 4.5.4

EIA-364-32

Requirement

No signs of damage detrimental to connector operation after 100 of cycles of temperature cycling.

Temperature extremes -65°C and +200°C.

30 minutes dwell time at each extreme.

Results

PASS. No specimens showed signs of damage.



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Glenair Sales Drawing