



*Glenair, Inc. 1211 Air Way, Glendale, California, 91201*

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**November 17, 2022**

**QUALIFICATION TEST REPORT  
SUMMARY  
FOR MIL-DTL-24308/9 TYPE  
KOVAR PLATED, HIGH-DENSITY  
RECTANGULAR D-SUBMINIATURE  
CONNECTORS  
(P/N: 280-013)**

**REPORT NO. GT-22-221**

TEST REPORT  
No. GT-22-221  
November 17, 2022



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**REVISION HISTORY**

<b>REVISION LETTER</b>	<b>DESCRIPTION OF REVISION</b>	<b>DATE</b>	<b>APPROVAL</b>
<b>A</b>	<b>Initial Release</b>	<b>11/17/2022</b>	<b>T. Gulrajani</b>



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## **1.0 ABSTRACT**

Glenair, Inc. conducted a qualification testing on (280-013) MIL-DTL-24308/9 Type Hermetic Rectangular D-Subminiature High-Density Connectors (Kovar Alloy/Nickel Plated) to determine its ability to meet the specified mechanical, electrical, and environmental performance requirements of MIL-DTL-24308 and EIA-364. These connectors were tested in accordance with Glenair Qualification Test Plan QTP-1197 Rev 5.

Six mated connector assemblies; (6) plug, (6) receptacle connectors passed all the test requirements listed in the test matrix found in paragraph 7.0 of QTP 1197 Rev. 5, see Appendix A for details.

The qualification testing of all plug and receptacle connectors was successfully carried out over the period of 05/10/22 thru 10/28/22 at Vertical Laboratories in Glendale, CA. The test results are documented on the final test report, see Appendix B for details. No failures were recorded during tests on test sample part numbers 280-013H3P and 280-013H4P-1.

## **2.0 SUMMARY OF TESTS**

Test/Inspection	Test Requirements		Glenair Part Number	Mated Sample (Quantity)	Test Results Pass/Fail
	Specification	Para.			
Visual, Mechanical Inspection	MIL-DTL-24308	3.1, 3.3, 3.4, 3.6, and 3.7	280-013H3P 280-013H4P-1	6	PASS
Insulation Resistance (ambient temperature)	MIL-DTL-24308	3.5.8, 4.5.10	280-013H3P 280-013H4P-1	6	PASS
Dielectric Withstanding Voltage at sea level	MIL-DTL-24308	3.5.6, 4.5.8.1	280-013H3P 280-013H4P-1	6	PASS
Air Leakage (Class K)	MIL-DTL-24308	3.5.12, 4.5.14	280-013H3P 280-013H4P-1	6	PASS
Temperature Cycling (Class K)	MIL-DTL-24308	3.5.11.1, 4.5.13.1	280-013H3P 280-013H4P-1	6	PASS
Air Leakage (Class K)	MIL-DTL-24308	3.5.12, 4.5.14	280-013H3P 280-013H4P-1	6	PASS
Humidity	MIL-DTL-24308	3.5.13, 4.5.15	280-013H3P 280-013H4P-1	6	PASS
Dielectric Withstanding	MIL-DTL-24308	3.5.6, 4.5.8.1	280-013H3P	6	PASS



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Voltage at sea level			280-013H4P-1		
Insulation Resistance (ambient temperature)	MIL-DTL-24308	3.5.8, 4.5.10	280-013H3P 280-013H4P-1	6	PASS
Vibration	MIL-DTL-24308	3.5.14, 4.5.16	280-013H3P 280-013H4P-1	6	PASS
Shock	MIL-DTL-24308	3.5.15, 4.5.17	280-013H3P 280-013H4P-1	6	PASS
Contact Resistance	MIL-DTL-24308	3.5.9, 4.5.11	280-013H3P 280-013H4P-1	6	PASS
Air Leakage (Class K)	MIL-DTL-24308	3.5.12, 4.5.14	280-013H3P 280-013H4P-1	6	PASS
Durability	MIL-DTL-24308	3.5.16, 4.5.18	280-013H3P 280-013H4P-1	6	PASS
Insert Retention	MIL-DTL-24308	3.5.21, 4.5.23	280-013H3P 280-013H4P-1	6	PASS
Post Test Examination	MIL-DTL-24308	3.1, 3.3, 3.4, 3.6, and 3.7	280-013H3P 280-013H4P-1	6	PASS

### **3.0 SCOPE**

This report documents the results of the qualification testing performed on hermetic D24308 D-subminiature high-density connectors (280-013). The acceptance test criteria referenced in QTP-1197, Rev 5 was used to help validate the qualification testing requirements in accordance with MIL-DTL-24308, EIA-364, and MIL-STD-202 test procedures. The tests were performed by Vertical Laboratories LLC.

### **4.0 REFERENCE DOCUMENTS**

MIL-DTL-24308J  
 With Amendment 1

Connectors, Electric, Rectangular,  
 Nonenvironmental, Miniature,  
 Polarized Shell, Rack and Panel,  
 General Specification for

EIA-364

Electrical Connector/Socket Test Procedures  
 Including Environmental Classifications



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SAE-AS39029

Contacts, Electrical Connector, General Specification for

MIL-STD-202

Test Methods for Electrical and Electrical Component Parts

**Glenair, Inc. Document**  
 QTP 1197

Qualification Test Plan for Rectangular D-Subminiature Polarized Shell, Rack & Panel, Pin, Hermetic Connector, Electrical

**5.0 TEST ITEM DESCRIPTION**

<b>Glenair Test Part Number</b>	<b>Description</b>	<b>Glenair Mating Part Number</b>	<b>Description</b>	<b>Backshell Part Number</b>	<b>Quantity</b>
280-013H3P	Hermetic Plug, M24308/9 Type, Size 3, Arrangement 3	280-019S3H44MEP	Connector Receptacle, D Subminiature Crimp, Environmental MIL-DTL-24308 Style	289T005ME3B-TSK or 289T005ME3B-TNK	3
280-013H4P-1	Hermetic Plug, M24308/9 Type, Size 4, Arrangement 4	280-019S4H62MEP	Connector Receptacle, D Subminiature Crimp, Environmental MIL-DTL-24308 Style	289T005ME4B-TSK or 289T005ME4B-TNK	3