RJ45/USB SUPER SEAL™

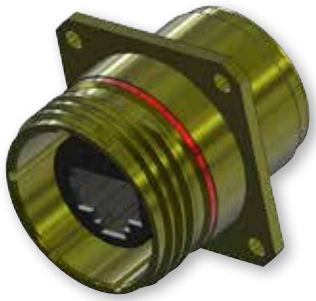
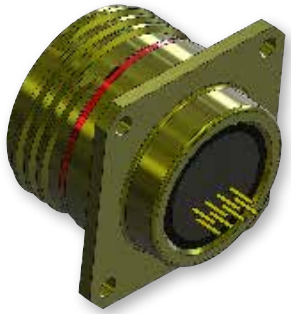
Coming Soon SuperSeal™ RJ45 CAT 6A ETHERNET CONNECTORS

RJ45 Cat 6a MIL-DTL-38999 Series III Type Wall-Mount Receptacle and Plug

High performance, proven reliability environmental connectors housing RJ45 interfaces for mission-critical data transfer applications

- **Superior sealing—IP67 minimum in unmated condition—for complete system protection against harsh elements**
- **Advanced thru-coupler grounding for superior electrostatic discharge and EMC**
- **Crimp, solder-cup, PC tail, quadrax, and compliant pin contact variations**
- **Scoop proof, self-locking, triple-start threaded coupling design of MIL-DTL-38999 Series III type connectors**
- **RJ45 cordsets with multiple length options available**
- **Integrated banding platform options for easy cable termination and EMI/RFI shielding**
- **Optional spring loaded protective covers for sand, dust, and mechanical protection of junction boxes and switches**
- **RJ45 plug and/or jack interfaces**
- **High Data Transfer Rates: 10GBase**

SuperSeal™ MIL-DTL-38999 Type RJ45 Connector Selection Guide

			
MIL-DTL-38999 Series III Type Plug Connectors with sealed RJ45 Plug (mated condition) Ethernet interfaces in a two piece coupler design. Easy field termination with Metal Gland backshell or shrink boot sealing options.	MIL-DTL-38999 Series III Type Receptacle Connectors with sealed RJ45 Jack-to-Jack Ethernet interfaces in a one piece coupler design. Metal Gland backshell and spring loaded protective covers available.	MIL-DTL-38999 Series III Type Receptacle Connectors with AS39029 crimp rear-release size #22D contacts	MIL-DTL-38999 Series III Type Receptacle Connectors with sealed RJ45 Jack interface and AS39029 rear-release crimp or solder cup #22D contacts. Size 22 Compliant Pin contacts, Quadrax Contacts or #22 PC Tail contacts also available.

Test Description	SuperSeal MIL-DTL-38999 Series III RJ45 Performance Requirements/Specifications	Procedure Per MIL-DTL-38999 and TIA/EIS-568-B.2
Contact Resistance	Connecting hardware shall conform to A.2; a thru c of TIA/EIA-568-B.2 per IEC 60512-2, Test Method 2A, millivolt level method (shall not exceed 0.025 ohms and 0.050 ohms during subsequent tests	TIA/EIA-568-B.2, Section A.2 IAW IEC 60512-2, Test method 2A
Insulation Resistance	Per IEC 60512-2, Test 3a, Method C, test voltage 500 VDC (Insulation Resistance minimum of 100 Ohm)	IAW IEC 60512-2, Test Method 2A
Mating Durability	500 to 1000 cycles (finish dependent) with no mechanical damage. Contact Resistance requirement as described above shall be met at 0.050 ohms after 100, 200 and 250 cycles (and 500 per finish). This shall be performed before Thermal Shock and Humidity/ Temperature cycling test and the additional 250 cycles shall be testing after completion in the same manner.	4.5.8 IAW TIA/EIA-568-B.2
Contact Retention	Individual contacts capable of withstanding at least 10 pounds axial load applied uniformly 1 lb/sec	IAW EIA-364-29
Vibration	Per MIL-DTL-38999 Series III Condition VI Letter J; Sine: 10 to 2,000 Hz each of three mutually perpendicular axis total of 36 hours (4 hours each ambient, -40ºC and +85ºC temperatures) Random: 43.9 rms g's random vibration 16 hours (8 hours longitudinal and perpendicular direction). No electrical discontinuity.	3.27 Sine 4.5.23.3 & 4.5.23.4 Random 4.5.23.1 IAW EIA-364-28
Shock	100 mA max with no discontinuities excess of 1 microsecond. Standard: Per EIA-364-27 – half sine wave @ 300 G. High Impact: Per MIL S 901, Grade A.	4.5 IAW EIA-364-27 IAW MIL S 901
Thermal Shock	Per IEC 60068-2-14 Test Number Nb. • Temperature range -40 - +85ºC ± 2ºC • Exposure Time: 30 min. • Number of Cycles: 100 • Test Group B contacts shall be inspected and contact resistance measured after 50 cycles and at completion of est. These specimens shall be used for humidity/thermal cycling testing.	TIA/EIA-568-B.2, A.7 IAW IEC 60068-2-14, Test Number Nb
Humidity/ Temperature Cycling	EIA-364-31 with exceptions b, d & e; EIA 364-32 Test Condition A, except steps 2 & 4 shall be 2 minutes max duration; Humidity/Temperature: TIA/EIA-568-B.2, A.8 per IEC 60068-2-38; Temperature for step 1 shall be -45 +0/-5ºC. • Temperature for step 3 shall be 85 +5/-0ºC Exposure Time: 30 min. • Number of Cycles: 100 No blistering, peeling or separation of the plating or other damage detrimental to operation of connector	4.5.11.1 or 4.5.11.2 4.5.13 IAW EIA-364-31,Method IV with temperature exceptions; IAW EIA-364-32, Test cond. A; IAW IEC 60068-2-14, Test Method Z/AD
Salt Spray	5% solution, 34º-36ºC. 48-1000 hours, depending on finish. Unmated connectors show no lifting of plated coating or exposure of basis material under 3X magnification which adversely affects performance.	4.5.13 IAW EIA-364-26
Water Immersion	1 Meter for 1 hour, Unmated	MIL-STD-810 method 512
EMI Shielding	Per IEC 60603-7, 1 MHz to 1000 MHz with effectiveness of 22 dB.	4.5.28 EIA-364-66
Fluid Resistance	Per EIA-364-10 unmated connector shall not experience any damage detrimental to performance after immersion in fluid.	4.5.30 IAW EIA-364-10

MIL-DTL-38999 Connector and Cable Assembly Material and Finish Codes

Code	Material	Finish	Finish Specification	Hrs. Salt Spray	Electrical Conductivity	Operating Temp. Range	RoHS Compliance
ME	Aluminum	Electroless Nickel	MIL-DTL-24308 Class K	96	Yes		Yes
MT	Aluminum	Nickel PTFE	SAE AMS2454	500	Yes	-65° to +175°C	Yes
NF	Aluminum	Cadmium, Olive Drab	SAE-AMS-QQ-P-416 Type II Class 2 over electroless nickel	500	Yes	-65 to +175°C	No
ZR	Aluminum	Zinc-Nickel, Black	ASTM B841 Grade 5 over electroless nickel	500	Yes	-65 to +175°C	Yes

MIL-DTL-38999 RJ45 Cat6a Electrical Specs for Plug & Receptacle	
Rating	Category 6a
Data rate	10GBase
Voltage rating	1000 Volts
Current rating	1.5 Amps (max)
Frequency	500 MHz (max)
Wiring	Straight through
Shield continuity	Continuous thru-coupler
Cable length	100 M (max)

Glenair®

For more information contact Glenair at **818-247-6000** or visit our website at **www.glenair.com**
U.S. CAGE code 06324