

Amphenol LJT MIL-DTL-38999 Series I



100% SCOOP-PROOF DESIGN WITH QUICK, POSITIVE BAYONET COUPLING

Amphenol's MIL-DTL-38999 series I LJT miniature connectors offer high-density contact arrangements and are suitable for extremely high-reliability connections, including use in military and commercial aviation. They are environmentally-sealed and have a wide operating temperature range.

- Meets requirements of HE308
- Intermateable with ITT Cannon, Deutsch, Souriau, Matrix® and all MIL-DTL-38999 series I connectors
- Formerly MIL-C-38999

APPLICATIONS

- High-performance military aircraft
- Commercial airlines
- Communications equipment
- Armored personnel carriers & tanks
- Missiles
- Shipboard
- Medical instrumentation
- High-reliability test equipment

FEATURES

QUICK-MATING

A three-point bayonet coupling system makes the LJTs quick-mating and provides an audible and tactile "click," along with visual verification of mated connectors via a sighting hole and high-visibility, bright blue bayonet pins.

SHIELDED INTERCONNECT

LJT plugs feature high-quality grounding springs that provide 360-degrees of EMI/RFI shielding protection. These springs ground the barrel of the LJT plugs to the inside wall of the LJT receptacles with a wiping action that offers effective protection from reception or transmission of electronic noise.

MANY CONTACT LAYOUTS AND STYLES

LJT connectors come in a wide variety of contact sizes and layouts, up to 128 contacts. Printed circuit board, fibre optic, thermocouple, and coax-style contacts are available for special applications.

UTILIZES HIGH-QUALITY MILITARY CONTACTS

For standard applications, LJT's come with crimp-style military contacts design to resist bending and provide reliable performance under the most rigorous conditions.

CORROSION-RESISTANT

LJT's are available with cadmium over nickel plating that has met and passed the 500-hour military salt spray corrosion tests.

TECHNICAL
SPECIFICATIONS

MATERIALS AND FINISHES

Shell	Aluminum alloy
Bayonet Pins	Passivated stainless steel per QQ-S-763
Plating	A - Clear chromate over cadmium over electroless nickel per QQ-P-416 B - Olive drab chromate over cadmium over electroless nickel per QQ-P-416 F - Electroless nickel per QQ-N-290 C - Hard, anodic, non-conductive in accordance with MIL-A-862 W52 - Olive drab zinc cobalt
Contacts	Copper alloy
Plating	Gold-plated, 50 microinches per MIL-G-45204 type II, grade C, class I
Insulator	Hard dielectric wafer which contains metal retention tines for high-reliability retention of crimp contacts
Grommet & Seals	Silicone-based elastomer
Grounding Springs	Beryllium copper

ELECTRICAL DATA

Operating Voltage & Test Voltage (Unmated Condition)		SERVICE RATING			
	TEST VOLTAGES	N	M	I	II
	Sea Level	1000	1300	1800	2300
	100,000 Feet	200	200	200	200

Current Rating by Contact Size & Wire Accommodation (Test Amps)

WIRE SIZE	22D	22M*	22*	20	16	12	8
28	1.5	1.5	-	-	-	-	-
26	2.0	2.0	2.0	-	-	-	-
24	3.0	3.0	3.0	3.0	-	-	-
22	5.0	-	5.0	5.0	-	-	-
20	-	-	-	7.5	7.5	-	-
18	-	-	-	-	10.0	-	-
16	-	-	-	-	13.0	-	-
14	-	-	-	-	-	17.0	-
12	-	-	-	-	-	23.0	-
8 (Power)	-	-	-	-	-	-	46

Contact resistance of Mated Contacts End-to-End

CONTACT SIZE	MAX. MILLIVOLT DROP
22D	73
22M*	45
22*	73
20	55
16	49
12	42
8 (Power)	26

Insulation Resistance 5,000 megohms minimum

MECHANICAL

Operating Temperature	A - Plating -65°C to 150°C (-85°F to 302°F) B - Plating -65°C to 175°C (-85°F to 347°F) F - Plating -65°C to 200°C (-85°F to 392°F) C - Anodic (non-conductive) -65°C to 200°C (-85°F to 392°F) W52 - Plating -65°C to 150°C (-85°F to 302°F)
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Sealing Against sand, dust per MIL-STD-202 & ice resistance

Wire Sealing Range	CONTACT SIZE	MINIMUM IN	MAXIMUM IN	MINIMUM MM	MAXIMUM MM
	22D	0.030	0.054	0.76	1.37
	22M*	0.030	0.050	0.76	1.27
	22*	0.034	0.060	0.86	1.52
	20	0.040	0.083	1.02	2.11
	16	0.065	0.109	1.65	2.77
	12	0.097	0.142	2.46	3.61
	10	0.135	0.162	3.42	4.12
	8 (Power)	0.135	0.155	3.43	3.94
	8 (Coax)	0.135	0.155	3.43	3.94
	8 (Twinax)	0.124	0.134	3.15	3.40

TECHNICAL
SPECIFICATIONS

INSULATION STRIP LENGTH

CONTACT SIZE	STRIP LENGTH
22*, 22D or 22M*	.125 (3.18)
20	.188 (4.77)
16	.188 (4.77)
12	.188 (4.77)
8 (Power)	.470 (11.94)

Mating Life	500 cycles minimum																		
Salt Spray	Finish A: 48-hour per MIL-STD-1344A method 1001 condition B Finish B: 500-hour per MIL-STD 1344A method 1001 condition C Finish F: 48-hour per MIL-STD-1344A method 1001 condition B Finish C: 500-hour per MIL-STD 1344A method 1001 condition C Finish W52: 48-hour																		
Heat	Finish A: 150°C (302°F) Finish B: 175°C (347°F) Finish F: 200°C (392°F) 1000-hour to MIL-STD-1344 method 1005 Finish C: 200°C (392°F) Finish W52: 175°C (347°F)																		
Chemical Resistance	Lubricating oils, hydraulic fluids, coolants, deicing fluids per MIL-STD-1344A Method 1016 condition A-1																		
Sine Vibration	30g at ambient temperature with simulated accessory load																		
Random Vibration	49.5 grms at ambient temperatures																		
Shock	300g ±15% half-sine wave magnitude for 3 ±1 milliseconds																		
EMI-Shielding Effectiveness	100 MHz to 10 GHz - minimum attenuation of 50dB																		
Contact Type	Crimp, fibre optic, coax, twinax, or printed circuit																		
Number of Circuits	2 to 128																		
Contact Insertion	Rear-insertion/rear-extraction with simple plastic or high-quality metal hand tools.																		
Contact Retention	Per MIL-DTL-38999L tested to MIL-STD-1344A method 2007 <table><tr><th>CONTACT</th><th>AXIAL LOAD NEWTONS ±10%</th><th>AXIAL LOAD POUNDS ±10%</th></tr><tr><td>22*, 22D, 22M*</td><td>44</td><td>10</td></tr><tr><td>20</td><td>67</td><td>15</td></tr><tr><td>16</td><td>111</td><td>25</td></tr><tr><td>12</td><td>111</td><td>25</td></tr><tr><td>8 (Coax, Twinax, Power)</td><td>111</td><td>25</td></tr></table>	CONTACT	AXIAL LOAD NEWTONS ±10%	AXIAL LOAD POUNDS ±10%	22*, 22D, 22M*	44	10	20	67	15	16	111	25	12	111	25	8 (Coax, Twinax, Power)	111	25
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Polarization	Three-point bayonet coupling, five keyways with optional master keyway rotations, note insert and four fixed minor keyways.																		
Approvals	MIL-DTL-38999L																		

* Inactive for new designs

CROSS-SECTION

