

Amphenol SJT MIL-DTL-38999 Type 1.5



MINIATURE CONNECTOR QUALIFIED TO JAN1003

Amphenol's SJT series of miniature MIL-DTL-38999 series II circular connectors offer high-density contact arrangements. They are environmentally-sealed and have a wide operating temperature range.

- Commonly called 38999 type 1.5
- Internationally-accepted NATO-standard connectors based on MIL-DTL-38999 design
- Qualified to JAN1003
- Meets the requirements VG96912

APPLICATIONS

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

FEATURES

QUICK-MATING

A three-point bayonet coupling system not only makes SJT's quick-mating, but also provides an audible and tactile "click" along with a visual verification of mating.

SHIELDED INTERCONNECT

The SJT range can be supplied with 360-degree EMI/RFI-shielding spring protection. These springs ground the barrel of the plug to the inside wall of the receptacle with a wiping action that offers effective protection from reception or transmission of electrical noise.

MANY CONTACT LAYOUTS AND STYLES

SJT 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

The SJT range of connectors use the same crimp-style military contacts as the MIL-DTL-38999 connectors to provide reliable performance under rigorous conditions.

CORROSION-RESISTANT

SJT's are available with cadmium-over-nickel plating that passed 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	(Default) - Clear chromate over cadmium over electroless nickel per QQ-P-416 014 - Olive drab chromate over cadmium over electroless nickel per QQ-P-416 023 - Electroless nickel per QQ-N-290 005 - 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)

TEST VOLTAGES	SERVICE RATING			
	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	22MQ	22Q	20	16	12
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

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

MECHANICAL

Operating Temperature (Default) Plating -65°C to 150°C (-85°F to 302°F)
 014 Plating -65°C to 175°C (-85°F to 347°F)
 023 Plating -65°C to 200°C (-85°F to 392°F)
 005 Anodic (non-conductive) -65°C to 200°C (-85°F to 392°F)
 W52 Plating -65°C to 175°C (-85°F to 347°F)

Sealing Against sand, dust per MIL-STD-202 & ice resistance

Wire Sealing Range

CONTACT SIZE	MIN. INCHES	MAX. INCHES	MIN. MM	MAX. 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 (Coax)	0.135	0.155	3.43	3.94
8 (Twinax)	0.124	0.134	3.15	3.40

* Inactive for new designs

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)

Mating Life	500 cycles minimum
Salt Spray	Finish (default): 48 hour per MIL-STD-1344A method 1001 condition B Finish 014: 500 hour per MIL-STD-1344A method 1001 condition C Finish 023: 48 hour per MIL-STD-1344A method 1001 condition B Finish 005: 500 hour per MIL-STD-1344A method 1001 condition C Finish W52: 48 hour
Heat	Finish (default): 150°C (302°F) Finish 014: 175°C (347°F) Finish 023: 200°C (392°F) Finish 005: 150°C (302°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-38999K, tested to MIL-STD-1344A method 2007

CONTACT SIZE	AXIAL LOAD NEWTONS ±10%	AXIAL LOAD POUNDS ±10%
22*, 22D, 22M*	44	10
20	67	15
16	111	25
12	111	25

Polarization	Three-point bayonet coupling, five keyways with optional master keyway rotations, note insert and four fixed minor keyways.
Approvals	In accordance with JAN1003 and VG96912

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