

MIL-DTL-38999, Series II JT

MIL-DTL-38999, Series I LJT



**MIL-DTL-38999
Series I LJT**

Components

Shell components are impact extruded or machined bar stock aluminum. Standard plating on shell components is cadmium over nickel. Many finishes are optional (see "Specifications" page 19). Hermetic seal receptacles are available in carbon steel or stainless steel shells. Dependable 5 key/keyway polarization with bayonet lock coupling is incorporated to aid and assure positive mating.

Insert material is a rigid dielectric with excellent electrical characteristics, providing durable protection for molded-in solder type contacts. Contrasting letter or number designations are used on insert faces.

A fluorinated silicone interfacial seal wafer is featured on the mating face of "crimp type pin" inserts. This assures complete electrical isolation of pins when connector halves are mated. In addition, a main joint gasket is installed in the receptacle for moisture sealing between connector halves. Both features are also available for hermetic receptacles.

Contacts

Maximum design flexibility is built into the JT/LJT Series, with a minimum of 2 to a maximum of 128 circuits per connector in a wide variety of contact arrangements. Contacts are available in sizes 8, 10, 12, 16, 20, 22, 22D and 22M with standard 50 micro inch minimum gold plating (100 micro inches optional). All socket contacts are probe proof. Crimp type rear removable contacts are featured in JT-R and LJT-R connectors. Solder termination contacts are also available, as well as PCB, wire wrap, thermocouple, fiber optic, coaxial, triaxial and twinax contact options.

Optional Features

High temperature capability of 392°F is available only in JTS or LJTS crimp type connectors. High temperature versions feature gold plated contacts, high temperature shell plating, stainless steel coupling nut spring, and epoxy inserts/fluorinated silicone grommet combination. Standard temperature capability for both solder and crimp is 302°F.

The JTN or LJTN type connectors are available for N₂O₄ resistance provided they are mated, and un-grommated rear faces are suitably protected.

For complete listing and definition of connector types, shell styles and service classes, see How to Order, pages 62 & 63. For information on Fail-Safe Lanyard Release style plugs, see pages 94-96.

Where proof of high reliability and lot control is required, MS approved equivalents to most proprietary JT and LJT connectors are available.

* MIL-DTL-38999 Series I supersedes MIL-C-38999 Series I.
MIL-DTL-38999 Series II supersedes MIL-C-38999 Series II.

Features & Benefits

Amphenol® LJT and JT Series subminiature cylindrical connectors are qualified to MIL-DTL-38999*, Series I and II respectively. These connectors were developed to meet the needs of the aerospace industry, and provided the impetus for development of the MIL-C-38999 specifications, which has been superseded by MIL-DTL-38999. Meeting or exceeding MIL-DTL-38999 requirements, Amphenol® JT/LJT connectors feature:

- **Lightweight, Space Saving Design**
- **Contact Protection** - 100% scoop-proof LJT design prevents bent pins and short circuits during mating
- **Quick Positive Coupling** - 3 point bayonet lock system
- **Mismating Eliminated** - with 5 key/keyway design
- **Error Proof Alternate Positioning** - insured by different key/keyway locations
- **EMI Shielding** - grounding fingers standard in LJT Series; optional in JT Series
- **Nine Shell Sizes and a Variety of Shell Styles**
- **Contact Options** - size 8, 10, 12, 16, 20, 22M and 22D Crimp, Solder, PCB, Wire wrap, Coax, Twinax, Triax, Thermocouple, Fiber Optic and Filter
- **Fixed Solder Contacts** - Amphenol MIL-DTL-38999 Series I LJT and II JT, are available in solder versions as both Commercial and Military qualified to MIL-DTL-27599
- **Hermetic** - air leakage limited to 1 X 10⁻⁷ cm³ per second optional
- **"Breakaway" Lanyard Release Style** - available in LJT plugs. Provides quick disconnect of the connector plug and receptacle with axial pull on the lanyard. See pages 94-96.
- **Inventory Support Commonality** - uses standard MIL-DTL-38999 contacts, insert arrangements and application tools.
- **RoHS Compliant Product Available** - Consult Amphenol Aerospace Operations.



**MIL-DTL-38999
Series II JT**

38999

III
HD
Dualok
II
I
SJT
Accessories
Aquacon
Herm/Seal
PCB

HIGH SPEED
Fiber Optics
Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix I Pyle

26500
Pyle

5015
Crimp Rear Release Matrix

22992
Class I

Back-Shells

Options
Others

38999

CONTACT RATING FOR TV III, HD, JT II, LJT I, SJT

Contact Size	Test Current (Amps)		Maximum Millivolt Drop Crimp*	Maximum Millivolt Drop		Contact Size	Crimp Well Data		Solder Well Data	
	Crimp	Hermetic		Solder*	Hermetic*		Well Diameter	Normal Well Depth	Well Diameter	Nominal Well Depth
23	5	3	73	20	85	23	.0345 ± .0010	.141	.0345 ± .0010	.130
22M	3	2	45	20	60	22M	.028 ± .001	.141	.029 +.004 -.000	
22D	5	3	73		85	22D	.0345 ± .0010	.141	.036 +.004 -.000	.094
22	5	3	73	20	85	22	.0365 ± .0010	.141	.036 +.004 -.000	.094
20	7.5	5	55	20	60	20	.047 ± .001	.209	.044 +.004 -.004	.125
16	13	10	49	20	85	16	.067 ± .001	.209	.078 +.000 -.004	.141
12	23	17	42	20	85	12	.100 ± .002	.209	.116 +.004 -.002	.141
10 (Power)	33	NA	33	NA	NA	10 (Power)	.137 ± .002	.355	NA	NA
8 (Power)	46	NA	26	NA	NA	8	.181 ± .002	.490	NA	NA
4	80	NA	23	NA	NA	4	.281 ± .002	.490	NA	NA
0	150	NA	21	NA	NA	0	.453 ± .002	.585	NA	NA

*When tested using silver plated wire.

SERVICE RATING**

Service Rating	Suggested Oper. Voltage (Sea Level)		Test Voltage (Sea Level)	Test Voltage 50,000 Ft.	Test Voltage 70,000 Ft.	Test Voltage 110,000 Ft.
	AC (RMS)	DC				
M	400	500	1300 VRMS	550 VRMS	350 VRMS	200 VRMS
N	300	450	1000 VRMS	400 VRMS	260 VRMS	200 VRMS
I	600	850	1800 VRMS	600 VRMS	400 VRMS	200 VRMS
II	900	1250	2300 VRMS	800 VRMS	500 VRMS	200 VRMS

**Please note that the establishment of electrical safety factors is left entirely in the designer's hands, since he is in the best position to know what peak voltage, switching surges, transients, etc. can be expected in a particular circuit.

MIL-DTL-38999 Series III STANDARD 500 CYCLE CONTACTS FOR TV AND CTV, P & S

Contact Size	TV/CTV Pins		TV/CTV Sockets	
	Military No.	Supersedes	Military No.	Supersedes
8 (Coax)*	M39029/60-367	MS27536	M39029/59-366	MS27535
8 (Power)	Contact Factory	"	"	"
8 (Twinax)	M39029/90-529**	N/A	M39029/91-530	N/A
10 (Power)	M39029/58-528	N/A	M39029/56-527	N/A
12	M39029/58-365	MS27493-12	M39029/56-353	MS27490-12
16	M39029/58-364	MS27493-16	M39029/56-352	MS27490-16
20	M39029/58-363	MS27493-20	M39029/56-351	MS27490-20
22D	M39029/58-360	MS27493-22D	M39029/56-348	MS27490-22D
4	N/A	N/A	N/A	N/A
0	N/A	N/A	N/A	N/A

Above part numbers include standard 500 cycle finish designation - gold plating over suitable underplate in accordance with SAE AS39029. For other finish variations, consult Amphenol Aerospace.

*For use with RG180B/U and RG195A/U cable. For other size 8 coax or optional sizes 12 and 16 coax contacts available for use in Tri-Start connectors, see High Speed Contact section in this catalog or consult Amphenol Aerospace.

MIL-DTL-38999 Series III SEALING PLUGS

Contact Size	Commercial No.	Military No.
8 (Coax)	10-482099-8	N/A
8 (Twinax)	T3-4008-59P	N/A
8 (Power)	10-405996-83	MS27488-8-3
10 (Power)	T3-4010-59P	M85049/81-10
12	10-405996-122	MS27488-12-2
16	10-405996-162	MS27488-16-2
20	10-405996-202	MS27488-20-2
22D	10-405996-222	MS27488-22-2
4	10-405996-43	MS27488-4-3
0	10-405996-03	MS27488-0-3

** For use with M17/M176-00002 cable.

† Optional design - see slash sheet MS39029.

For other contact options available for use in Tri-Start connectors (wire wrap, thermocouple, fiber optic), consult Amphenol.

MIL-DTL-38999 Series III 1500 CYCLE CONTACTS FOR CTV, CLASSES H & J

Contact Size	CTV Pins			CTV Sockets		
	Commercial No.	Military No.	Supersedes	Commercial No.	Military No.	Supersedes
12	10-597072-2X	M39029/107-623	-	10-597073-2X	M39029/106-617	-
16	10-597068-2X	M39029/107-622	-	10-597069-2X	M39029/106-616	-
20	10-597064-2X	M39029/107-621	-	10-597065-2X	M39029/106-615	-
22D	10-597058-3X	M39029/107-620	-	10-597061-2X	M39029/106-614	-

MIL-DTL-38999 Series II JT/ Series I LJT/SJT Series CRIMP CONTACTS

Contact Size	JT/LJT/SJT Pins MS No.	JT Socket MS No.	LJT/SJT Sockets MS No.	Contact Size	JT/LJT Pins MS No.	JT Socket MS No.	LJT/SJT Sockets MS No.
8 (Coax)*	M39029/60-367	NA	M39029/59-366	20	M39029/58-363	M39029/57-357	M39029/56-351
8 (Twinax)	M39029/90-529**	NA	M39029/91-530	22	M39029/58-362	M39029/57-356	M39029/56-350
10 (Power)	M39029/58-528	NA	M39029/56-527	22M	M39029/58-361	M39029/57-355	M39029/56-349
12	M39029/58-365	M39029/57-359	M39029/56-353	22D	M39029/58-360	M39029/57-354	M39029/56-348
16	M39029/58-364	M39029/57-358	M39029/56-352				