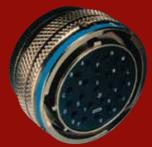


MIL-DTL-38999, Series II JT MIL-DTL-38999, Series I LJT





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 N_2O_4 resistance provided they are mated, and un-grommeted 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.

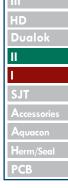
Features & Benefits

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.







HIGH SPEED Fiber Optics

> Contacts Connectors Cables

Aerospace MIL-DTL-38999, Series I LJT, II JT, III TV, HD Contact Ratings/ Contact Part Numbers

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

8999 ₁	CONTACT RATING FOR TV III, HD, JT II, LJT I, SJT											
0444	Contact Test Current (Amps) Maxir			Maximum	Aaximum Maximum Millivolt		Contact	Crimp We	Crimp Well Data		Solder Well Data	
111	Size	Crimp	Hermetic	Millivolt	Dr	ор	Size	Well	Normal	Well	Nominal	
HD				Drop	Solder*	Hermetic*		Diameter	Well	Diameter	Well Depth	
				Crimp*					Depth			
Dualok	23	5	3	73	20	85	23	.0345 ± .0010	.141	.0345 ± .0010	.130	
II	22M	3	2	45	20	60	0014	000 001		000 004		
	22D	5	3	73		85	22M	.028 ± .001	.141	.029 +.004 000		
C 17	22	5	3	73	20	85	22D	.0345 ± .0010	.141	.036 +.004	.094	
SJT	20	7.5	5	55	20	60	220	.0040 1 .0010	.141	000	.034	
cessories	16	13	10	49	20	85	22	.0365 ± .0010	.141	.036 +.004	.094	
Aquacon	12	23	17	42	20	85				000		
	10 (Power)	33	NA	33	NA	NA	20	.047 ± .001	.209	.044 +.004	.125	
lerm/Seal	8 (Power)	46	NA	26	NA	NA				004		
РСВ	4	80	NA	23	NA	NA	16	.067 ± .001	.209	.078 +.000	.141	
	0	150	NA	21	NA	NA				004		
	*When teste	d using silve	r plated wire.				12	.100 ± .002	.209	.116 +.004	.141	
HIGH										002		
SPEED							10 (Power)	.137 ± .002	.355	NA	NA	
Fiber							8	.181 ± .002	.490	NA	NA	
Fiber Optics							4	.281 ± .002	.490	NA	NA	
		SERVICE RATING** 0 .453 ± .002 .585 NA NA										
Contacts												

Service Haring										
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

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.

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 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	JT Socket	LJT/SJT Sockets	Contact Size	JT/LJT Pins	JT Socket	LJT/SJT Sockets
	Pins MS No.	MS No.	MS No.		MS No.	MS No.	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				