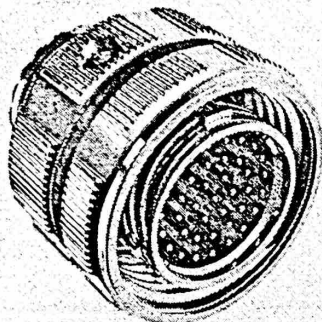


ENVIRONMENTAL, MICRO MINIATURE CIRCULAR

Series 806

Mil-Aero Connectors

806-012 Plug Connector



Features

- Triple-start stub ACME mating thread
- High density #20HD and #22HD arrangements for reduced size and weight plus #16, #12, and #8 arrangements and combo layouts
- Aerospace-grade materials, construction
- Snap-in crimp contacts

Specifications

- Operating temperature:
Finishes ME, MT, Z1: -65°C to +200°C
Finishes NF, ZR: -65°C to +175°C
- Dielectric withstanding voltage
Size 20HD contacts: 1800 VAC
Size 22HD contacts: 1300 VAC
Size 16 contacts: varies; contact factory
Size 12 contacts: contact factory
Size 8 contacts: varies; contact factory
- Mating durability: 500 cycles
- Mechanical shock: EIA-364-27, 300g.
- Vibration (sine): MIL-DTL-38999M, 60g.
- Vibration (random) EIA-364-28 Condition VI, Letter J, 43.92 Grms, +200°C
- High Impact shock: MIL-S-901 Grade A
- Humidity: EIA-364-31 Method 4
- Salt spray (dynamic): EIA-364-26, 500 hours (96 hours for nickel-plated versions)
- Altitude immersion: EIA-364-03 75,000 feet altitude

Connector Construction

- Shell and coupling nut: aluminum or stainless steel
- Contacts: copper alloy, gold plating
- Wire grommet: fluorosilicone
- Dielectric inserts: high grade rigid dielectric
- Ground spring: copper alloy, nickel plating
- Contact retention clips: copper alloy
- Ratchet springs: stainless steel, passivated
- Retainer rings: stainless steel, passivated

Micro miniature 806-012 cable plugs save space and weight compared to conventional aerospace-grade circular connectors. Rugged ratchet mechanism and unique triple-start mating thread provide improved de-coupling resistance under vibration. Series 806 connectors are intended for use in harsh application areas such as unpressurized aircraft zones subject to vibration, moisture, altitude, and temperature extremes. Available with integral Nano Band platform or metric accessory threads. Insert arrangements support size #22HD, #20HD, #16, #12, and #8 snap-in, rear-release contacts.

How To Order						
SAMPLE PART NUMBER: 806-012		-ME	8-3	S	M	A
Product	806-012 = Cable Plug					
Shell Material and Finish	ME = Aluminum, Electroless Nickel MT = Aluminum, Ni/PTFE ZR = Aluminum, Black Zinc-Nickel NF = Aluminum, Olive Drab Cadmium Z1 = Stainless Steel, Passivated					
Arrangement Number	See Table 1 (Shell Size - Insert Arr.)					
Contact Type	P = Pin A = Pin connector, less contacts S = Socket B = Socket connector, less contacts For datalink contacts (including El Ochito) order connector without contacts and order datalink contacts separately					
Shell Style	M = Metric accessory threads B = Nano Band platform					
Polarization	A B C D E F					

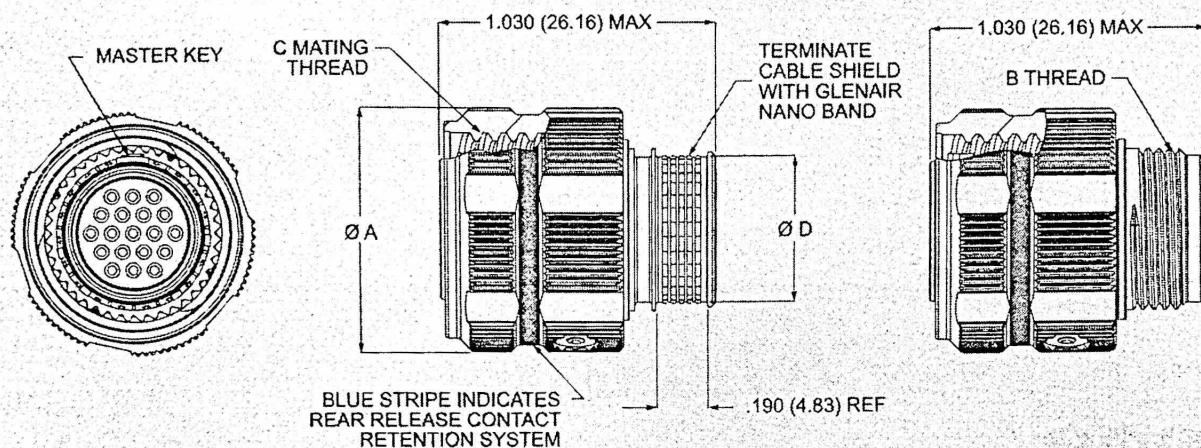
Table 1: Shell Size - Insert Arrangement

Contact Layout	Number of Contacts					Contact Layout	Number of Contacts					Contact Layout	Number of Contacts				
	22HD	20HD	16	12	8		22HD	20HD	16	12	8		22HD	20HD	16	12	8
7-3	3					22-69	69					16-2					2
8-4	4					24-92	92					18-3					3
8-7	7					8-1			1			20-4					4
9-11	11					10-2			2			22-5					5
10-15	15					11-4			4			24-8					8
11-19	19					12-5			5			10-8A	6		2		
12-26	26					14-7			7			11-13	11		2		
14-39	39					16-12			12			12-27	26		1		
16-60	60					18-15			15			14-21	17		4		
18-85	85					20-22			22			16-41	37		4		
20-110	110					22-24			24			18-59	55		4		
22-140	140					24-35			35			11-14	13			1	
24-186	186					9-1				1		12-14	12			2	
8-3	3					12-2				2		14-22	20			2	
9-5	5					14-3				3		12-14	12			2	
10-8	8					16-4				4		16-42	40			2	
11-10	10					16-7				7		18-62	60			2	
12-15	15					18-8				8		14-20A	19				1
14-20	20					20-11				11		16-22	20				2
16-31	31					22-13				13		18-21	18				3
18-41	41					24-19				19		20-28	24				4
20-55	55					10-1					1	22-44	40				4
												24-97	93				4

ENVIRONMENTAL, MICRO MINIATURE CIRCULAR

Series 806 Mil-Aero Connectors

806-012 Plug Connector



SHELL STYLE B
NANO BAND PLATFORM

SHELL STYLE M
METRIC ACCESSORY THREAD

806-012 Plug Dimensions				
Shell Size	ØA Max	B Thread	C Mating Thread	ØD
7	.606 (15.39)	M8x1.0-6g-0.100R	4375-.067P-.2L-TS-2B	.267 (6.78)
8	.676 (17.17)	M10x1.0-6g-0.100R	.5000-.067P-.2L-TS-2B	.327 (8.31)
9	.771 (19.58)	M12x1.0-6g-0.100R	.5625-.067P-.2L-TS-2B	.406 (10.31)
10	.832 (21.13)	M14x1.0-6g-0.100R	.6250-.067P-.2L-TS-2B	.484 (12.29)
11	.890 (22.61)	M15x1.0-6g-0.100R	.6875-.067P-.2L-TS-2B	.524 (13.31)
12	.950 (24.13)	M17x1.0-6g-0.100R	.7500-.067P-.2L-TS-2B	.603 (15.32)
14	1.110 (28.19)	M19x1.0-6g-0.100R	.8750-.067P-.2L-TS-2B	.681 (17.30)
16	1.170 (29.72)	M22x1.0-6g-0.100R	1.0000-.067P-.2L-TS-2B	.782 (19.86)
18	1.350 (34.29)	M25x1.0-6g-0.100R	1.1250-.067P-.2L-TS-2B	.899 (22.83)
20	1.470 (37.34)	M28x1.0-6g-0.100R	1.2500-.067P-.2L-TS-2B	1.043 (26.49)
22	1.600 (40.64)	M31x1.0-6g-0.100R	1.3750-.067P-.2L-TS-2B	1.155 (29.34)
24	1.710 (43.43)	M34x1.0-6g-0.100R	1.5000-.067P-.2L-TS-2B	1.273 (32.33)

NOTES:

1. Boot groove for use with 809-060 Heat Shrink boots
2. Terminate shield with Glenair Band-Master ATS tool 601-108 and Glenair Nanoband

MICRO MINIATURE CIRCULAR Series 806 Mil-Aero Connectors



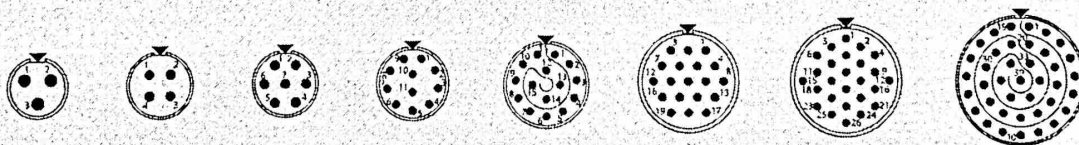
Contact Arrangements (Mating face of pin connector shown. Socket numbering is reversed.)

Contact Arrangements																							
Contact Layout	Number of Contacts					Contact Layout	Number of Contacts					Contact Layout	Number of Contacts					Contact Layout	Number of Contacts				
	22HD	20HD	16	12	8		22HD	20HD	16	12	8		22HD	20HD	16	12	8		22HD	20HD	16	12	8
7-3	3					14-20	20				14-3				3	18-59	55		4				
8-4	4					16-31	31				16-4				4	11-14	13			1			
8-7	7					18-41	41				16-7				7	12-14	12			2			
9-11	11					20-55	55				18-8				8	14-22	20			2			
10-15	15					22-69	69				20-11				11	12-14	12			2			
11-19	19					24-92	92				22-13				13	16-42	40			2			
12-26	26					8-1		1			24-19				19	18-62	60			2			
14-39	39					10-2		2			10-1				1	14-20A	19				1		
16-60	60					11-4		4			16-2				2	16-22	20				2		
18-85	85					12-5		5			18-3				3	18-21	18				3		
20-110	110					14-7		7			20-4				4	20-28	24				4		
22-140	140					16-12		12			22-5				5	22-44	40				4		
24-186	186					18-15		15			24-8				8	24-97	93				4		
8-3		3				20-22		22			10-8A	6		2									
9-5		5				22-24		24			11-13	11		2									
10-8		8				24-35		35			12-27	26		1									
11-10		10				9-1			1		14-21	17		4									
12-15		15				12-2			2		16-41	37		4									

Series 806 Size 22HD Contact Arrangements (1300 VAC, 5 A)

Mating face of pin connector. Socket numbering is reversed.

Symbol ▼ indicates master key location.

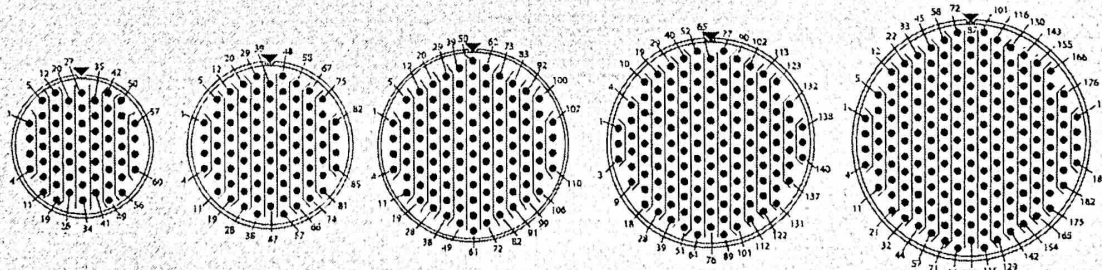


Arrangement No. No. of Contacts

7-3 3 8-4 4 8-7 7 9-11 11 10-15 15 11-19 19 12-26 26 14-39 39

Mating face of pin connector. Socket numbering is reversed.

Symbol ▼ indicates master key location.



Arrangement No. No. of Contacts

16-60 60 18-85 85 20-110 110 22-140 140 24-186 186

See Appendix for PC board layouts

MICRO MINIATURE CIRCULAR

Series 806

Mil-Aero Connectors

Materials and Finishes, Performance Specification



Standard Materials and Finishes

DESCRIPTION	MATERIAL	FINISH
Pin Contact	Copper alloy	50 microinches gold over nickel
Socket Contact	Copper alloy, with stainless steel hood	50 microinches gold over nickel Contact hood: passivate
Insulators	High grade rigid dielectric	None
Seals	Fluorosilicone/silicone blend, blue	None
EMI Spring	Beryllium copper	Nickel
Shell, Coupling Nut, Jam-nut	Aluminum alloy or stainless steel	See how-to-order tables for finish options
Contact Retention Clip	Beryllium copper	None
Anti-Decoupling Ratchet Spring	Stainless steel	Passivate

Performance Specification

TEST DESCRIPTION	REQUIREMENT			PROCEDURE	
Dielectric withstanding voltage at sea level	Contact Size	Altitude	Voltage	MIL-DTL-38999M para. 4.5.11.1 EIA-364-20 Method A 2 mA maximum leakage current Unmated pairs	
	20HD	Sea level	1800		
	22HD	Sea level	1300		
Dielectric withstanding voltage at altitude	Contact Size	Altitude	Voltage	MIL-DTL-38999M para. 4.5.11.2 EIA-364-20 Method A 2 mA maximum leakage current Mated pairs	
	20HD	50,000 ft	1000		
		70,000 ft	1000		
		100,000 ft	1000		
	22HD	50,000 ft	800		
		70,000 ft	800		
100,000 ft		800			
Insulation resistance at ambient temperature	5000 megohms minimum			MIL-DTL-38999M Para. 4.5.10.1 EIA-364-21	
Insulation resistance at elevated temperature	1000 megohms minimum			MIL-DTL-38999M Para. 4.5.10.2 EIA-364-21	
Contact resistance at 25°C, crimp contacts	Wire Size	Test Current Amperes	Maximum Voltage Drop (millivolts)		AS39029C Para. 4.7.5 EIA-364-06 Silver-plated wire
			Initial	After Conditioning	
	20	7.5	55	66	
	22	5	73	88	
	24	3	45	54	
	26	2	52	63	
	28	1.5	54	65	
	30	1	60	73	
	Contact resistance at 200° C, crimp contacts	Wire Size	Test Current Amperes	Maximum Voltage Drop (millivolts)	
Initial				After Conditioning	
20		7.5	94		
22		5	125		
24		3	77		
26		2	89		
28		1.5	92		
30		1	103		
Low level contact resistance, crimp contacts		Wire Size	Maximum Contact Resistance (milliohms)		AS39029C Para. 4.7.4 EIA-364-23 Silver plated wire
	Initial Values		After Conditioning		
	20	9	11		
	22	15	17		
	24	20	23		
	26	31	38		
	28	50	60		
	30	75	88		

CONNECTOR REFERENCE

MICRO MINIATURE CIRCULAR

Series 806

Mil-Aero Connectors

Performance Specification



Performance Specification				
TEST DESCRIPTION	REQUIREMENT			PROCEDURE
Contact resistance, glass-sealed hermetic connectors	Contact Size, Wire Size	Test Current Amperes	Maximum Millivolt Drop	
			Initial	After Conditioning
	20	5	60	75
	22	3	85	95
Shell-to-shell conductivity	Finish Code	Shell Matl/Fin	Millivolt Drop (mV)	
	NF	Al/OD Cad	2.5	
	MT	Al/Ni-PTFE	2.5	
	ME	Al/EN	1.0	
	ZR	Al/Zn-Ni	2.5	
	Z1	SST/pass.	10.0	
	ZL	SST/Ni	1.0	
Backshell shield braid to shell conductivity	Finish Code	Shell Matl/Fin	Millivolt Drop (mV)	
	NF	Al/OD Cad	5.0	
	MT	Al/Ni-PTFE	5.0	
	ME	Al/EN	3.5	
	ZR	Al/Zn-Ni	5.0	
	Z1	SST/pass.	15.0	
	ZL	SST/Ni	3.5	
Indirect lightning strike	No evidence of damage which could impair proper functioning. Connectors shall meet shell-to-shell conductivity, DWV and coupling torque.			MIL-DTL-38999M Para. 4.5.47 EIA-364-75 10,000 Amps peak current
EMI shielding	Freq. MHz	Leakage Attenuation, (dB) minimum		MIL-DTL-38999M Para. 4.5.28
		Electroless Nickel Finish	Cadmium, Nickel-PTFE, Zinc-Nickel Finish	
	100	90	90	
	200	88	88	
	300	88	88	
	400	87	87	
	600	85	85	
	1,000	85	85	
	1,500	76	69	
	2,000	70	65	
	3,000	69	61	
	4,000	68	58	
	6,000	66	55	
	10,000	65	50	
Durability	No evidence of damage which could impair proper functioning following 500 cycles of mating and unmating.			MIL-DTL-38999M Para. 4.5.8 EIA-364-09
Coupling and uncoupling torque	Shell size	Maximum Engagement lbs.-inch.	Minimum Disengagement lbs.-inch.	MIL-DTL-38999M Para. 4.5.7 EIA-364-114
	8	8	2	
	9	8	2	
	10	12	2	
	11	12	2	
	12	12	2	
	14	16	2	
	16	20	3	
	18	24	3	
	20	28	3	
	22	32	5	
	24	36	5	
	Insert retention	100 pounds per square inch, 25 pound minimum force		
External bend moment	Shell size	Pound inches		MIL-DTL-38999M Para. 4.5.16 EIA-364-43
	8	100		
	9	100		
	10	100		
	11	200		
	12	300		
	14	400		
	16	500		
	18	600		
	20	700		
	22	800		
	24	900		

CONNECTOR REFERENCE

MICRO MINIATURE CIRCULAR Series 806 Mil-Aero Connectors Performance Specification



Performance Specification			
TEST DESCRIPTION	REQUIREMENT		PROCEDURE
Contact retention	Contact size	Pounds $\pm$ 10 percent	MIL-DTL-38999M Para. 4.5.20.1 EIA-364-29
	22HD	10	
	20HD	10	
Magnetic permeability	2 μ maximum		MIL-DTL-38999M Para. 4.5.48 EIA-364-54
Contact engaging /separation force	Contact forces shall meet AS39029 Table 9 requirements		AS39029C Para. 4.7.6 EIA-364-37
Temperature cycling (thermal shock)	No evidence of damage detrimental to the function of the connector		MIL-DTL-38999M Para. 4.5.4 EIA-364-32 Mated connectors, -65° C to +200° C
Random vibration, elevated temperature, 43g rms	No discontinuities of 1 microsecond or longer No resonance at frequencies less than 300 Hz		MIL-DTL-38999M Para. 4.5.23.2.3 with Figure 24 accessory load EIA-364-28 +200° C
Random vibration, ambient temperature, 49g rms	No discontinuities of 1 microsecond or longer		MIL-DTL-38999M Para. 4.5.23.2.4 EIA-364-28 Test Condition V
Sine vibration, 60g	No discontinuities of 1 microsecond or longer		MIL-DTL-38999M Para. 4.5.23.2.1 with Figure 24 accessory load 12 hours in each of 3 axes 4 hours at ambient, 4 hours at -55° C, 4 hours at +200° C
Mechanical shock, 300g	No discontinuities of 1 microsecond or longer		MIL-DTL-38999M Para. 4.5.24.1 EIA-364-27
High impact shock (901)	No discontinuities of 1 microsecond or longer No evidence of damage which could impair proper functioning.		MIL-DTL-38999M Para. 4.5.24.2 MIL-5-901 Grade A
Humidity, cyclic	Meet DWV and IR test		MIL-DTL-38999M Para. 4.5.26 EIA-364-31 Method 4 10 cycles, 10 days, 25 – 65° C 80 – 100% RH
Ozone exposure	No evidence of damage detrimental to the function of the connector.		MIL-DTL-38999M Para. 4.5.29 EIA-364-14
Fluid Immersion	No damage to plastic, elastomeric and bonding materials detrimental to the function of the connector. Connector shall meet coupling torque and DWV requirements when tested within 3 hours of immersion.		MIL-DTL-38999M Para. 4.5.30 EIA-364-10
Altitude immersion	No evidence of moisture on connector interface or contacts. At the end of the third cycle, while still submersed, connectors shall meet dielectric withstanding voltage and 1,000 megohms insulation resistance.		MIL-DTL-38999M Para. 4.5.9 EIA-364-03 75,000 feet
Altitude-low temperature	Connectors shall meet insulation resistance requirement while at -65° C and 100,000 ft. Connectors shall meet DWV requirement when returned to ambient conditions.		MIL-DTL-38999M Para. 4.5.21 EIA-364-105 -65° C 100,000 ft.
Thermal vacuum outgassing	All nonmetallic materials shall not exceed 1.0% Total Mass Loss and 0.1% Total Volatile Condensable Materials. Applicable only to connectors that have been subjected to optional thermal vacuum outgassing.		MIL-DTL-38999M Para. 4.5.42 ASTM E595
Salt Spray (dynamic)	Finish Code	Matl/Fin	Hours
	NF	Al/OD Cad	500
	MT	Al/Ni-PTFE	500
	ME	Al/EN	48
	ZR	Al/Zn-Ni	500
	Z1	SST/passivate	1000
	ZL	SST/Ni	1000
			MIL-DTL-38999M Para. 4.5.13.2 EIA-364-26 500 mating cycles

CONNECTOR REFERENCE