

# "ZERO-CROSSTALK" Series 806 Mil-Aero VersaLink™ Connectors



## Performance Specifications

SERIES 806 VERSALINK CONNECTORS

STANDARD MATERIALS AND FINISHES		
DESCRIPTION	MATERIAL	FINISH
Pin Contact	Copper alloy	50 microinches gold over nickel
Socket Contact	Copper alloy, with stainless steel hood (22HD and 20HD contacts only)	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	Nickel
Anti-Decoupling Ratchet Spring	Stainless steel	Passivate

PERFORMANCE SPECIFICATION				
TEST DESCRIPTION	REQUIREMENT			PROCEDURE
Dielectric withstanding voltage at sea level	Contact Size	Altitude	Voltage	
	20HD	Sea level	1800	
	22HD	Sea level	1300	
Dielectric withstanding voltage at altitude	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, 22HD and 20HD crimp contacts	Wire Size	Test Current Amperes	Maximum Voltage Drop (millivolts)	
			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, 22HD and 20HD 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, 22HD and 20HD crimp contacts	Wire Size	Maximum Contact Resistance (milliohms)		
		Initial Values		After Conditioning
	20	9		11
	22	15		17
	24	20		23
	26	31		38
	28	50		60
30	75		88	
Contact resistance at 25°C, 22HD and 20HD crimp contacts	Wire Size	Test Current Amperes	Maximum Voltage Drop (millivolts)	
			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	

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TEST DESCRIPTION	REQUIREMENT			PROCEDURE
Shell-to-shell conductivity	Finish Code	Shell Matl/Fin	Millivolt Drop (mV)	MIL-DTL-38999M Para. 4.5.25 EIA-364-83
	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)	MIL-DTL-38999M Para. 4.5.25.1 EIA-364-83
	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	
	800	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 in-lb	MIL-DTL-38999M Para. 4.5.7 EIA-364-114
		8	2	
	9	2		
	10	2		
	11	2		
	12	2		
	14	2		
	16	3		
	18	3		
	20	3		
	22	5		
	24	5		
	Insert retention	100 pounds per square inch, 25 pound minimum force		
External bend moment	Shell size	Inch-Pound		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		

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TEST DESCRIPTION	REQUIREMENT	PROCEDURE	
Contact retention	Contact size	MIL-DTL-38999M Para. 4.5.20.1 EIA-364-29	
	22HD		Pounds ± 10 percent 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, 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	
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	
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	

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