

Series 795 General Information

Materials, Finishes, Specifications

SERIES 795

Materials and Finishes



The United States Department of Defense (DoD) has issued a directive to minimize or eliminate the use of cadmium and hexavalent cadmium on DoD equipment. The DoD has approved nickel-PTFE and zinc-nickel shell platings as replacements for cadmium plating. European Union Directive 2002/95/EC on Restriction of the use of certain Hazardous Substances (RoHS) states that certain types of equipment (primarily consumer products such as personal computers) shall not contain lead, mercury, cadmium, hexavalent chromium, PBB's or PBDE's. The three standard shell finish options in this catalog comply with RoHS and DoD directives and are free from cadmium and hexavalent chromium.

MATERIALS AND FINISHES

Description	Material	Finish
Shell	Aluminum alloy 6061	See table below
Interfacial seal	Fluorosilicone blend elastomer	None
Grommet	Fluorosilicone blend elastomer	None
O-ring, conductive	Silver-plated alum. filled fluorosilicone	None
EMI spring	Beryllium copper	Nickel
Contact retention clip	Beryllium copper	None
Jackscrew, jackpost	300 series stainless steel	Passivated

STANDARD CONNECTOR SHELL FINISH CODES

Plating Code	Type	Salt Spray Hours	Application Notes
M	Electroless Nickel	48	Standard finish for Series 795 connectors. Approved for space programs. Excellent conductivity. Reflective. RoHS compliant, Cr6-free. <i>ASTM B733 Category SC2</i>
MT	Nickel-PTFE	500	Excellent corrosion resistance and durability. Excellent conductivity. Matte, light grey appearance. Solderable. RoHS compliant, Cr6-free. <i>SAE AMS2454</i>
ZR	Black Zinc-Nickel	500	DoD-approved alternative to olive-drab cadmium. Excellent corrosion resistance and good electrical conductivity. Non-reflective black. RoHS compliant. <i>ASTM B841 Type D</i>

ADDITIONAL CONNECTOR SHELL FINISH CODES

Plating Code	Type	Salt Spray Hours	Application Notes
Z2	Gold	48	RoHS compliant, Cr6-free. <i>MIL-DTL-45204</i>
J	Cadmium/gold chromate	500	Not allowed in space applications. Excellent conductivity and corrosion resistance. <u>Not RoHS compliant.</u> <i>SAE AMS-QQ-P-416</i>
NF	Cadmium, olive drab chromate	500	Not allowed in space applications. Excellent conductivity and corrosion resistance. <u>Not RoHS compliant.</u> <i>SAE AMS-QQ-P-416</i>
C	Black Anodize	336	Non-conductive, not suitable for EMI-protected equipment. Cadmium-free, Cr6-free. RoHS compliant. <i>MIL-A-8625</i>

Series 795 General Information Specifications

DESCRIPTION	REQUIREMENT	PROCEDURE												
Insulation resistance	Not applicable (connector is one piece aluminum)	EIA-364-21												
Dielectric withstanding voltage	Not applicable (connector is one piece aluminum)	EIA-364-20												
Shell-to-shell resistance (with ground spring)	2.5 millivolt maximum	EIA-364-83												
Shielding effectiveness	<table border="1"> <thead> <tr> <th>Frequency</th> <th>Attenuation dB</th> </tr> </thead> <tbody> <tr> <td>100</td> <td>75</td> </tr> <tr> <td>1000</td> <td>50</td> </tr> <tr> <td>3000</td> <td>44</td> </tr> <tr> <td>6000</td> <td>38</td> </tr> <tr> <td>10000</td> <td>35</td> </tr> </tbody> </table>	Frequency	Attenuation dB	100	75	1000	50	3000	44	6000	38	10000	35	EIA-364-66
Frequency	Attenuation dB													
100	75													
1000	50													
3000	44													
6000	38													
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Ingress protection	IP67 rating	IEC-60529												
Vibration, sine	No discontinuity of greater than 1 microsecond, no cracking, breaking or loosening of parts.	EIA-364-28 Test Condition IV 100 milliamp test current, 10- 2,000 Hz 20 g, 196 m/s ²												
Vibration, random	No discontinuity of greater than 1 microsecond, no cracking, breaking or loosening of parts, plug shall not become disengaged from receptacle.	364-28 Test Condition V Letter E 100 milliamp test current, 50- 2,000 Hz 16.91 g rms, 8 hrs. each axis												
Mechanical shock	No discontinuity of greater than 1 microsecond, no cracking, breaking or loosening of parts, plug shall not become disengaged from receptacle.	EIA-364-27 Condition D 3 shocks X 3 axes X 2 directions = 18 shocks 2941 m/s ² (300 g's), 3 ms, half-sine												
Thermal shock	No mechanical damage or loosening of parts. Following thermal shock, connector shall meet contact resistance, DWV, insulation resistance and shell-to-shell resistance requirements	EIA-364-32 Test Condition IV 5 cycles consisting of -65° C 30 minutes, +25° C 5 minutes max., +150° C 30 minutes, +25° C 5 minutes max.												
Humidity	No deterioration which will adversely affect the connector. 100 megohms minimum insulation resistance during the final cycle. Following the recovery period, connectors shall meet contact resistance, shell-to-shell resistance and DWV requirements.	EIA-364-31 Method IV 80-98% RH, 10 cycles (10 days), +25° C to +65° C Step 7b vibration deleted. 24 hour recovery period.												
Altitude - Low Temperature	5000 megohms minimum insulation resistance.	EIA-364-105, -65° C, 100,000 feet (11 mbar) Wired, mated pairs												
Mechanical Durability, at Ambient Temperature	500 cycles	EIA-364-09												
Corrosion (Salt Mist)	No exposure of base metal. Connectors shall meet DWV and contact resistance requirements following the test.	EIA-364-26, 5% salt solution, 35° Code M: electroless nickel 48 hours Code MT: nickel-PTFE 500 hours Code ZR: black zinc nickel 500 hours												
Impact, Cable Connectors	No impairment of function. Connector shall meet contact resistance, insulation resistance and waterproof sealing.	EIA-364-42, 1 meter, 8 drops												
Fluid Immersion	No damage from immersion in various fuels and oils. Connector shall meet mating/unmating force and dielectric withstanding voltage.	EIA-364-10												
Altitude Immersion	No evidence of moisture on connector interface or contacts. Connector shall meet dielectric withstanding voltage.	EIA-364-03 75,000 feet simulated altitude												
Contact retention, Size #8 BMB coax contacts	25 lbs. minimum	EIA-364-29												
Magnetic permeability	2 mu maximum	EIA-364-54												
Thermal vacuum outgassing	All nonmetallic materials shall not release greater than 1.0 percent total mass loss (TML) and 0.1 percent collected volatile condensable material (CVCM)	ASTM E595 Test to be performed following 24 hours vacuum bakeout at +125 °C, 10-6 Torr.												