





## Product Specification

**108-106126**  
02 JUL 14 Rev. A1

Material: Steel

Finish: Nickel plating

### 3.3 Ratings:

- A. Voltage Rating : 200V AC (rms)
- B. Current Rating: 1A
- C. Temperature Rating :  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$

### 3.4 Performance Requirements and Test Descriptions :

The product shall be designed to meet the electrical, mechanical and environmental performance requirements specified in Fig.1.

#### 3.4.1 Test Environment

All tests shall be performed in the environmental conditions listed below,  
Unless otherwise specified.

Temperature:	15°C to 35°C
Humidity:	20% to 80% RH
Atmospheric Pressure:	650 to 800mm Hg



3.5 Test Requirements and Procedures Summary

Para	Test Items	Requirements	Procedures
3.5.1	Examination of Product	Meets requirements of product drawing.	Visual inspection No physical damage.
<b>Electrical Requirements</b>			
3.5.2	Contact Resistance (Low Level)	40 mΩMax. (Initial) 55 mΩMax. (After Test)	Subject a voltage of 20mV Max open circuit at 100mA on mated contacts assemblies per EIA364-23
3.5.3	Insulation Resistance	500MΩMin.	500V DC for 1minute between adjacent circuits of mated connectors. EIA364-21
3.5.4	Dielectric withstanding Voltage	No creeping discharge or flashover shall occur. Leak current: 0.5mA Max.	500V AC for 1minute between adjacent circuits of mated connectors. EIA364-20 Method B
3.5.5	Temperature Rising (apply only to 15 positions)	Temperature rise shall not exceed 30°C after 20 hours (45 minutes ON and 15 minutes OFF per hour). Ambition condition is 25°C at still air.	Wire contact P1, P2, P8 & P9 in parallel for power. Wire contact P4, P5, P6 P10 & P12 in parallel for return. Apply 6A total DC current to parallel contacts P1, P2, P8 & P9 and return from parallel contacts P4, P5, P6 P10 & P12
<b>Mechanical Requirements</b>			
3.5.6	Connector Mating Force	0.15KG per contact Max.	Operation speed: 25mm/min. Measure force necessary to mate samples. EIA364-13
3.5.7	Connector Un-mating Force	0.04KG per contact Min.	Operation speed: 25mm/min. Measure force necessary to un-mate samples. EIA364-13
3.5.8	Durability (Repeated Mate/Un-mating)	See note.	Operation Speed :40cycles/hour No. of Cycles: 500cycles. EIA364-09
3.5.9	Vibration (Random)	No electrical discontinuity greater than 1μsec shall occur.	Subject mated connectors to 10-55-10 Hz traversed in 1 minute at 1.52mm amplitude 2 hours each of 3 mutually perpendicular planes. EIA364-28
Fig.1 (CONT.)			



# Product Specification

**108-106126**  
02 JUL 14 Rev. A1

Para	Test Items	Requirements	Procedures
3.5.10	Physical Shock	No electrical discontinuity greater than 1μsec shall occur.	Accelerated Velocity : 50G Waveform : Half-sin wave Duration: 11 milliseconds. Number of drops: 3 drops each to normal and reversed directions of X, Y and Z axes, totally 18 drops. EIA364-27
3.5.11	Solder ability	Solderable area shall have a solder coverage of 95% min.	Eutectic solder Solder Temperature : 235±5°C Immersion Duration: 3±0.5 sec. Lead-Free solder (Sn-Ag-Cu) Solder Temperature : 245±5°C Immersion Duration: 3±0.5 sec. MIL-STD-202 Method 208
3.5.12	Resistance to Soldering Heat	No physical damage shall occur.	Test connector on PCB. Solder Temperature : 260±5°C Immersion Duration : 10±0.5 sec. In case of manual soldering iron, apply it as 360±10°C for 3±0.5°C seconds without forcing pressure to affect the time of contact. Test contact per EIA364-56
<b>Environmental Requirements</b>			
3.5.13	Temperature Life (Heat Aging)	See note.	Mated connector 85°C, 500 Hours EIA364-17, Method A, Condition III
3.5.14	Humidity (Steady State)	See note.	Mated connector 90-95% Relative Humidity at 40 °C 96 hours EIA364-31, Method II, Condition A
3.5.15	Thermal Shock	See note.	Mated connector -55°C / 30 min. +85°C / 30 min. Making this a cycle, repeat 10 cycles. EIA364-32, Condition I
3.5.16	Mixed Flowing Gas	See note.	Expose half of samples unmated for 7days then mated for 7 additional days and expose other half of samples mated for full 14 days per EIA 364-65, Class 2A
3.5.17	Salt Spay	See note.	Mated connector Salt concentration: 5%, 35±2°C, 48 hours EIA364-26

**NOTE**

Shall meet visual requirements, show no physical damage, and meet requirements of additional tests as specified in the Product Qualification and Re qualification Test Sequence shown in Figure 2.

Fig. 1 (END)

3.5 Product Qualification Test Sequence

Test Examination	Test Group							
	1	2	3	4	5	6	7	8
	Test Sequence(a)							
Examination of Product	1,5	1,9	1,8	1,8	1,7	1,5	1,3	1
Low level Contact Resistance	2,4	3,7	2,4,6		4,6	2,4		2,4
Insulation Resistance				2,6				
Dielectric withstanding Voltage				3,7				
Temperature Rising			7					
Conn. Mating Force		2						
Conn. Un-mating Force		8						
Durability	3	4(b)			2(b)			
Vibration		5						
Physical Shock		6						
Reseating (manually plug/unplug 3 time)			5		5			
Solder ability							2	
Resistance to Solder Heat						3		
Temperature Life(Heat Aging)			3					
Humidity (Steady State)				5				
Thermal Shock				4				
Mixed Flowing Gas					3			
Salt Spray								3

FIG 2

- (a) Numbers indicate sequence in which tests are performed.
- (b) Preconditioning, 20 cycles for the 50-durability cycle requirement, 50 cycles for the 500-durability cycle requirement. The mating and un-mating cycle is at the maximum rate of 200 cycles per hour.



#### **4. QUALITY ASSURANCE PROVISIONS**

##### 4.1 Qualification Testing

###### A. Specimen Selection

Plugs and jacks shall be prepared in accordance with applicable Instruction Sheet and shall be selected at random from current production. Each test group shall consist of a minimum of 5 specimens unless otherwise stated.

###### B. Test Sequence

Qualification inspection shall be verified by testing specimens as specified in figure 3.

##### 4.2 Requalification testing

If changes significantly affecting form, fit or function are made to the product or manufacturing process or controlling industry specification, product assurance, shall coordinate requalification testing, consisting of all or part of the original testing sequence as determined by development/product, quality and reliability engineers.

##### 4.3 Acceptance

Acceptance is based on verification that the product meets the requirements of Figure 2. Failures attributed to equipment, test setup or operator deficiencies shall not disqualify the product. If product failure occurs, corrective action shall be taken and samples resubmitted for qualification. Testing to confirm corrective action is required before resubmitted.

##### 4.4 Quality conformance Inspection

The applicable quality inspection plan shall specify the sampling acceptable quality level to be used. Dimensional and functional requirements shall be in accordance with the applicable product drawing and this specification.