# PRODUCT SPECIFICATION

## INVERTED RIGHT ANGLE MODULAR JACKS

### 1.0 SCOPE

This Product Specification covers the 1.02 mm (.040 inch) centerline (pitch) printed circuit board (PCB) modular jack connector series with selective gold and tin plating.

### 2.0 PRODUCT DESCRIPTION

#### 2.1 PRODUCT NAME AND SERIES NUMBER(S)

| | |
|---|---|
| Single Port Inverted Modular Jack | 43860 |
| Single Port Inverted Mini-PCI Modular Jack | 44380 |
| Dual Port Inverted Modular Jack | 43814 |
| Ganged Inverted Modular Jack | 44248 |
| Single Port Inverted Modular Jack with Keep-out Feature | 44620 |

#### 2.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKINGS

See the appropriate sales drawings (SD-43860-001, SD-44380-001, SD-43814-001, SD-44248-001) for information on dimensions, materials, plating and markings.

#### 2.3 SAFETY AGENCY APPROVALS

UL File Number……E107635
CSA File Number……..LR19980

### 3.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

FCC Rules and Regulations, Part 68, Subpart F
REA Bulletin 345-81, PE-76; Specification for modular telephone set hardware
ANSI/EIA/TIA-568
IEC-60603-7
UL 1863
MIL-STD-202; General requirements for test specifications

### 4.0 RATINGS

#### 4.1 VOLTAGE

56.5 V DC
150 $V_{RMS}$ AC (Ringing voltage only)

#### 4.2 CURRENT

1.5 Amps @ 25°C

#### 4.3 TEMPERATURE

Operating: - 40°C to + 85°C
Nonoperating:* - 40°C to + 85°C
*Packaging materials should not exceed + 50°C

## 5.0 PERFORMANCE

### 5.1 ELECTRICAL REQUIREMENTS

| | DESCRIPTION | TEST CONDITION | REQUIREMENT |
|---|---|---|---|
| | **Contact Resistance (Low Level)** | Mate connectors: apply a maximum voltage of **20** mV and a current of **100** mA. (Measurement locations in Section 7.0) | **20** milliohms MAXIMUM [initial] |
| | **Insulation Resistance** | Unmated connector, mounted to a PCB: apply a voltage of **100** VDC between adjacent terminals and between terminals to ground. | **500** Megohms MINIMUM |
| | **Dielectric Withstanding Voltage** | Mate connectors: apply a voltage of **1000** VAC for **1** minute between adjacent terminals and between terminals to ground. | No breakdown; current leakage < **5** mA |

### 5.2 MECHANICAL REQUIREMENTS

| | DESCRIPTION | TEST CONDITION | REQUIREMENT |
|---|---|---|---|
| | **Connector Mate Force** | Mate connector at a rate of **25 ± 6** mm (**1 ± ¼** inch) per minute. (Gage dimensions in Section 7.0) | **22** N (**5** lbf) unshielded MAXIMUM insertion force **35** N (**8** lbf) shielded MAXIMUM insertion force |
| | **Durability** | Mate connectors up to **500** cycles at a maximum rate of **10** cycles per minute prior to Environmental Tests. | **10** milliohms MAXIMUM (change from initial) |
| | **Vibration (Random)** | Amplitude: 1.50mm (.060") peak to peak Sweep: 10-55-10 Hz in one minute Duration: 15 minutes ±X,±Y,±Z axis (45 minutes total) | **10** milliohms MAXIMUM (change from initial) & Discontinuity < **1** microsecond |
| | **Plug Retention Force** | Apply an axial pullout force on the plug at a rate of **25 ± 6** mm (**1 ± ¼** inch) per minute. | **89** N (**20** lbf) MINIMUM retention force |
| | **PCB Separation Forces** | Apply a perpendicular load on the plug at a rate of **25 ± 6** mm (**1 ± ¼** inch) per minute. | **4.5** N (**1** lbf) MINIMUM withdrawal force before solder reflow **89** N (**20** lbf) MINIMUM withdrawal force after solder reflow |
| | **Shock (Mechanical)** | Mate connectors and shock at **50** g's with three saw tooth wave form shocks in the ±X,±Y,±Z axis (18 shocks total). | **10** milliohms MAXIMUM (change from initial) & Discontinuity < **1** microsecond |

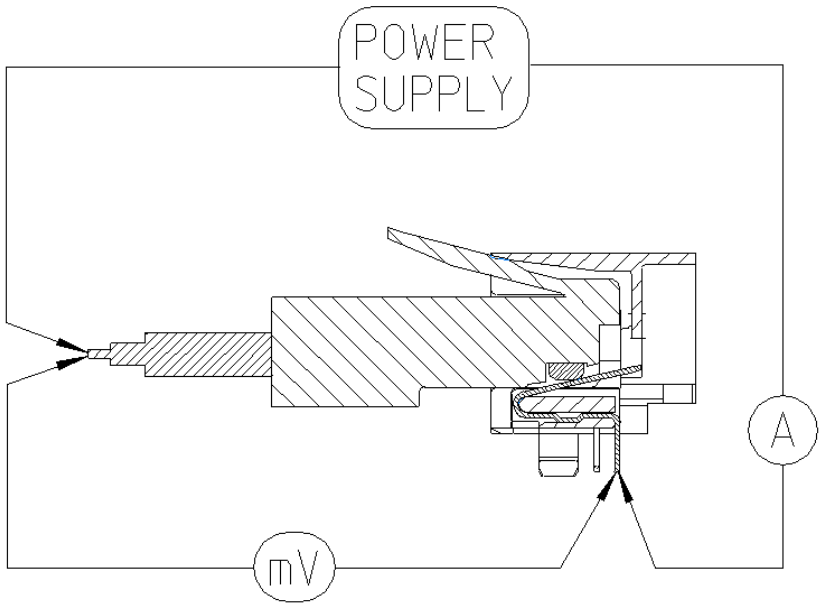
### 5.3 ENVIRONMENTAL REQUIREMENTS

| | DESCRIPTION | TEST CONDITION | REQUIREMENT |
|---|---|---|---|
| | **Shock (Thermal)** | Mate connectors; expose to **10** cycles of:<br>**-40**°C to +**85**°C<br>**30** minutes dwell | **10** milliohms MAXIMUM (change from initial)<br>&<br>Visual: No Damage |
| | **Thermal Aging** | Mate connectors; expose to:<br>**240** hours at **85±2**°C | **10** milliohms MAXIMUM (change from initial)<br>&<br>Visual: No Damage |
| | **Humidity (Cyclic)** | Mate connectors: expose to<br>**10** cycles at **90-95**% relative humidity with temperatures at +**25**°C and +**65**°C per MIL-STD-202F method 106F<br>(without -10°C dip) | **10** milliohms MAXIMUM (change from initial)<br>&<br>Dielectric Withstanding Voltage:<br>No Breakdown at **500** VAC<br>&<br>Insulation Resistance:<br>**200** Megohms MINIMUM<br>&<br>Visual: No Damage |
| | **Solder Resistance** | Dip connector terminal tails in solder:<br>Solder Duration: **7±0.5** seconds<br>Solder Temperature: **260±5**°C<br><br>**{**Recommended same parameters as **SMES-152.}**<br><br>Note: The solder resistance test simulates a wave solder process. This test should not be used to determine the suitability of the connector for a convection or IR reflow solder process. | Visual:<br>No Damage to insulator material |

**6.0 PACKAGING**

Parts shall be packaged to protect against damage during handling, transit and storage. See appropriate sales drawings on Sheet 1 for packaging descriptions.

**7.0 GAGES AND FIXTURES**




TERMINATION RESISTANCE MEASUREMENT POINTS
Connector and plug terminals and wire conductor bulk resistance to be subtracted from measurements

**8.0 OTHER INFORMATION**