



# PRODUCT SPECIFICATION

## 1.0 SCOPE

Product performance and test methods for Micro-Coaxial connectors

## 2.0 PRODUCT DESCRIPTION

Micro-Coaxial Connector (mates to Hirose U.FL)

## 3.0 RATINGS

### A. VOLTAGE

60 Vrms

### B. TEMPERATURE

-40°C TO +90°C

### C. OPERATING FREQUENCY

DC to 6 GHz

### D. IMPEDANCE

50 OHM

### E. VSWR

1.3 MAX (DC to 6 GHz)

REVISION: <b>D7</b>	ECR/ECN INFORMATION: EC No: <b>URF2015-0486</b> DATE: <b>2015/03/04</b>	TITLE: <b>PS-73598-0210</b> <b>MICRO COAXIAL CONNECTOR</b> <b>50 OHMS</b>	SHEET No. <b>1 of 5</b>
DOCUMENT NUMBER: <b>PS-73598-021</b>	CREATED / REVISED BY: <b>Darry/Darry</b>	CHECKED BY: <b>Steven Ho</b>	APPROVED BY: <b>Darry</b>



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## 4.0 TEST CONDITION

Unless otherwise specified all tests performed in accordance with MIL-STD-202

## 5.1 ELECTRICAL:

### (1) Contact Resistance:

- A. Measure contact resistance of mated pair.
- B. Requirement:
  - Inner contact: 20 mΩ MAX
  - Outer contact: 10 mΩ MAX

### (2) Insulation Resistance:

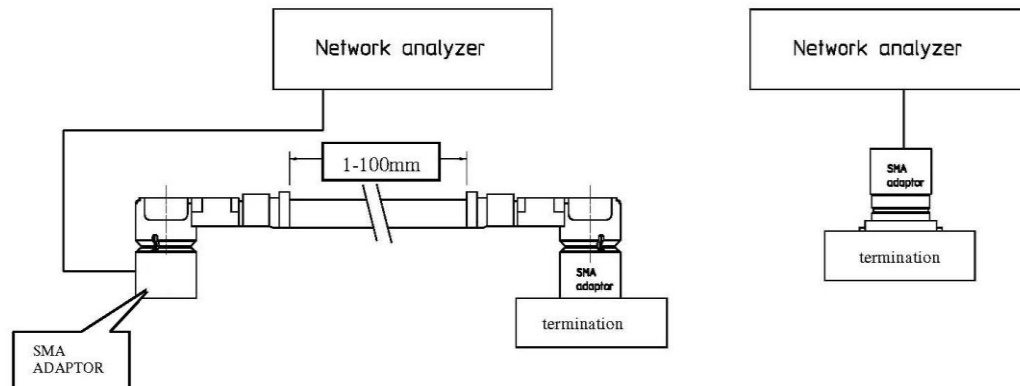
- A. Apply 100V between inner and outer contacts in accordance with MIL-STD-202, Method 302.
- B. Requirement:
  - 500MΩ MIN

### (3) Dielectric Withstand Voltage:

- A. Apply AC 300 Vrms between inner and outer contact in accordance with MIL-STD-202, Method 301.
  - A leakage current 6mA MAX.
- B. Requirement: No breakdowns or damage to connector.

### (4) VSWR

- A. Measure VSWR as shown below (or using equivalent setup) from DC to 6 GHz
- B. Requirement: 1.3 MAX (DC TO 6 GHz) for mated pair



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## 5.2 MECHANICAL:

### (1) Mating & Unmating Force

- A. Mate cycle parts 30 times.
- B. Requirements:  
 Mating force: Initial 20N MAX. After 30 cycles 15N MAX.  
 Unmating force: Initial 5N MIN. After 30 cycles 1.5N MIN.

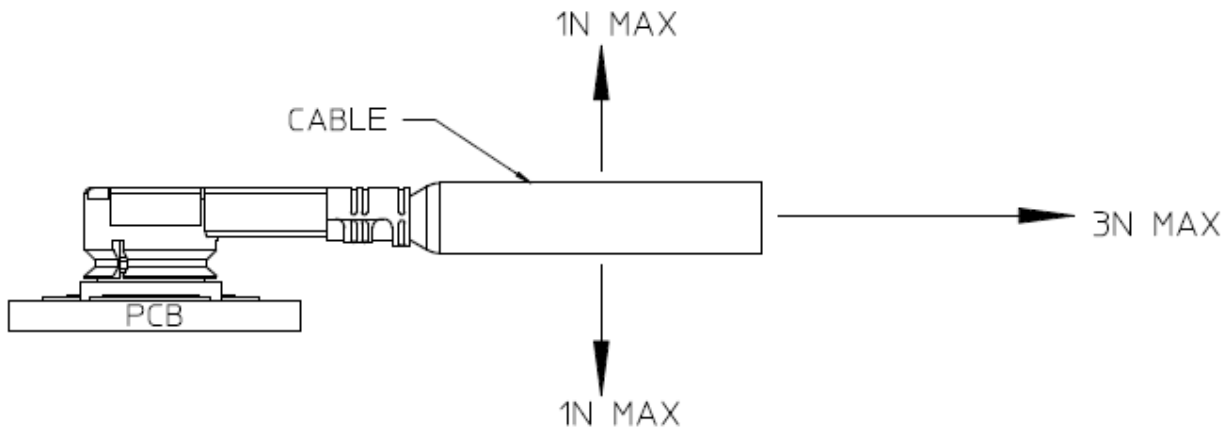
### (2) Durability :

- A. Mate cycle parts 30 times.
- B. Requirements:  
 Inner contact resistance: Initial 20 mΩ MAX. After testing 25 mΩ MAX.  
 Outer contact resistance: Initial 10 mΩ MAX. After testing 15 mΩ MAX.

### (3) Cable retention force (Mated status):

- A. Testing: apply force on the cable as shown in Fig.3 with 100mA applied.
- B. Requirements:  
 Appearance: No looseness, chipping, breakage or other damage.  
 Electrical: No discontinuity greater than 1 microsecond.

Inner contact resistance: Initial 20 mΩ MAX. After testing 25 mΩ MAX.  
 Outer contact resistance: Initial 10 mΩ MAX. After testing 15 mΩ MAX



Note: See E-73598-021-SK to edit above sketch

### (4) Vibration

- A. Apply the following vibration profile to mated connector pair while 100mA current is applied:  
 Frequency : 10Hz → 100Hz → 10Hz/ 15minutes  
 Half amplitude, peak value of acceleration : 1.5mm or 59m/s<sup>2</sup> (6G)  
 Axes: 3 mutually perpendicular directions, 5 cycles (75min) for each direction
- B. Requirements:  
 Appearance: No looseness, chipping, breakage or other damage.  
 Electrical: No discontinuity greater than 1 microsecond.

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Inner contact resistance: Initial 20 mΩ MAX. After testing 25 mΩ MAX.

Outer contact resistance: Initial 10 mΩ MAX. After testing 15 mΩ MAX.

## (5) Shock

A. Apply profile below to mated pair in accordance with MIL-STD-202, Method 213, condition B. During testing apply DC 100mA.

Peak value of acceleration: 735m/s<sup>2</sup> (75G)

Duration : 11 milliseconds

Wave Form: Half sinusoidal

Directions: 6 mutually perpendicular directions, 3 cycles in each direction

### B. Requirement

Appearance: No looseness, chipping, breakage or other damage.

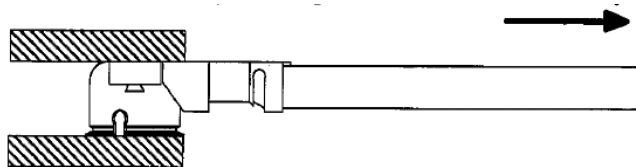
Discontinuity: No discontinuity greater than 1 microsecond.

Inner contact resistance: Initial 20 mΩ MAX. After testing 25 mΩ MAX.

Outer contact resistance: Initial 10 mΩ MAX. After testing 15 mΩ MAX.

## (6) Cable crimp strength

A. Testing: Pull cable as shown below.



### B. Requirements:

No damage after 4N pull force.

## 5.3 ENVIRONMENTAL:

### (1) Thermal shock

A. Testing: Apply the following profile for 5 cycles:

-40°C/30 minutes → 5~35°C/5 minutes MAX. → 90°C/30 minutes → 5~35°C/5 minutes MAX.

### B. Requirements:

Appearance: No looseness, chipping, breakage or other damage.

Inner contact resistance: Initial 20 mΩ MAX. After testing 25 mΩ MAX.

Outer contact resistance: Initial 10 mΩ MAX. After testing 15 mΩ MAX.

Insulator resistance: Initial 500MΩ MIN. After testing 100 MΩ MIN.

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## (2) Humidity

A. Testing: Apply the following profile in accordance with MIL-STD-202, Method 103, Condition B:

Temperature:  $40 \pm 2^\circ\text{C}$

Humidity: 90~95%

Duration: 96 hours

B. Requirements:

Appearance: No looseness, chipping, breakage or other damage.

Inner contact resistance: Initial  $20\text{ m}\Omega$  MAX. After testing  $25\text{ m}\Omega$  MAX.

Outer contact resistance: Initial  $10\text{ m}\Omega$  MAX. After testing  $15\text{ m}\Omega$  MAX.

Insulator resistance: Initial  $500\text{ M}\Omega$  MIN. After testing  $100\text{ M}\Omega$  MIN.

## (3) High Temperature Life

A. Testing: Apply the following profile:

Temperature:  $90 \pm 2^\circ\text{C}$

Duration: 96 hours

B. Requirements:

Appearance: No looseness, chipping, breakage or damage.

Inner contact resistance: Initial  $20\text{ m}\Omega$  MAX. After testing  $25\text{ m}\Omega$  MAX.

Outer contact resistance: Initial  $10\text{ m}\Omega$  MAX. After testing  $15\text{ m}\Omega$  MAX.

## (4) Salt spray

A. Testing: Apply the following profile in accordance with MIL-STD-202, Method 101:

Temperature:  $35 \pm 2^\circ\text{C}$

Salt percentage (by weight):  $5 \pm 1\%$

Duration: 48 hours

B. Requirements:

Appearance: No exposure of base metal on interface or mating surface.

Inner contact resistance: Initial  $20\text{ m}\Omega$  MAX. After testing  $25\text{ m}\Omega$  MAX.

Outer contact resistance: Initial  $10\text{ m}\Omega$  MAX. After testing  $15\text{ m}\Omega$  MAX.

Insulation resistance: Initial  $500\text{ M}\Omega$  MIN. After testing  $100\text{ M}\Omega$  MIN.

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