

ENGINEERING		PRODUCT SPECIFICATION For Micro USB Receptacle Connector(CU09)	SPEC.NO.: SPCU024B
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1. SCOPE:

This specification covers performance, tests and quality requirements for Universal Serial Bus (Micro USB) plug and receptacle connectors. These connectors are cable mounted plug and PC Board mounted receptacle connectors

2. APPLICABLE STANDARDS:

EIA 364	Test methods for electrical connectors
MIL - STD - 202	Methods for test of connectors for electronic equipment

3. APPLICABLE SERIES NO.: **CU09SEV15B0-R0 / CU09SEV15BN-RN**

4. SHAPE, CONSTRUCTION AND DIMENSIONS

See attached drawings

5. MATERIALS

See attached drawings

6. ACCOMMODATED P.C.BOARD

6.1 Thickness: Standard 1.6 mm (.063") or DIP Type 1.0 mm (.039")

6.2 P.C. Board Layout: See attached drawings



REVIEWED : Eisley APPROVED : Sun VERIFIED : Eric .



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7. ELECTRICAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT
7.1	Rated current and voltage		Signal(Pin 2,3,4): 0.5A Power(Pin 1,5): 1.8A 250V AC/DC (r.m.s.)
7.2	Contact resistance	MIL-STD-202,Method 307 Subject mated contacts assembled in housing to 20 mV max. open circuit at 100 mA max.	Initial: 30 mΩ max. Final: 40 mΩ max.
7.3	Dielectric strength	MIL-STD-202,Method 301 Test between adjacent contacts of mated and unmated connector assemblies	100 VAC (rms)
7.4	Insulation resistance	MIL-STD-202,Method 302 When applied DC 100 V between adjacent contacts of mated and unmated connector assemblies	Initial: 1000 MΩ min. Final: 1000 MΩ min.

8. MECHANICAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT
8.1	Mating force	Measure force necessary to mate corresponding connector assemblies at maximum rate of 12.5± 0.3 mm per minute	3.57 Kgf (35N) max.
8.2	Un mating force	Measure force necessary to un mate corresponding connector assemblies at maximum rate of 12.5± 0.3 mm per minute	0.815Kgf (8N) min. initial 0.306 Kgf (3N) min. After 10,000 cycles
8.3	Durability	Mate and un mate up to 10000 cycles at maximum rate of 12.5±0.3 mm per minute	Contact resistance Final: 40 mΩ max.

9. ENVIRONMENTAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT
9.1	Vibration	Solder the receptacle connector to the test board, then mate plug connector, Then apply following vibration in accordance with MIL-STD-202, Method 201 Frequency: 10→55→10 Hz in 1 minute Directions: three mutually perpendicular direction Amplitude: 1.52mm Sweep Duration: 2 hours for each direction, total. of 6 hours	No electrical discontinuity more than 1μs. No damage.



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9. ENVIRONMENTAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT
9.2	Temperature cycling	Solder the receptacle connector to the test board, then mate plug connector, Then apply the following environment in accordance with MIL-STD-202, Method 107. Condition B Test cycles: 10 cycles Temperature: -55°C (30min.) →85°C (30min.) Transition time: 5min. (Max.)	Contact resistance Final: 40 mΩ max. No damage. Insulation resistance: 1000 MΩ min.
9.3	Humidity	Solder the receptacle connector to the test board, then mate plug connector, Then apply the following humidity in accordance with MIL-STD-202, Method 106. Temperature : 25°C ± 2°C Humidity : 90~98%RH No of cycles : 7 cycles (168 hours)	Contact resistance Final: 40 mΩ max. Insulation resistance: 1000 MΩ min.
9.4	Solder ability	seconds in accordance with MIL-STD-202, Method 208. Soldering time: 5±0.5 second Soldering pot: 245 ± 5 °C	Minimum: 95% of immersed area
9.5	Resistance to soldering heat	Soldering time: 20-40 seconds Soldering pot: 260 +0/-5 °C Refer Reflow temperature profile(11-1)	No damage



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	ITEM	TEST CONDITION	REQUIREMENT
9.6	Salt spray	<p>Temperature: $35 \pm 3^{\circ}\text{C}$ Solution: $5 \pm 1\%$ Spray time: 48 ± 4 hours (Stamping before plated) Spray time: 24 ± 4 hours (Stamping after plated) Mate connectors and expose to the following salt mist conditions. Upon completion of the exposure period, salt deposits shall be removed by a gentle wash or dip in running water and dried naturally, after which the specified measurements shall be performed. The specimens shall be suspended from the top using waxed twine, string or nylon thread. The test only define the plating area, without plating area (as copper cross section) will not be defined. (EIA 364-26B / MIL-STD-202 Method 101)</p>	<p>Appearance: No damage on function Contact resistance: Less than twice of initial</p>
9.7	Heat aging	<p>Solder the receptacle connector to the test board, then mate plug connector, Then apply the following High Temperature life in accordance with MIL-STD-202, Method 108. Condition B Temperature : $85 \pm 2^{\circ}\text{C}$ Duration : 250hours</p>	<p>Contact resistance: 30 mΩ max. No damage</p>

10. AMBIENT TEMPERATURE RANGE: -25°C to 85°C storage; -20°C to 85°C operating

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11. Recommended IR Reflow Temperature Profile:

11.1 Using Lead-Free Solder Paste

