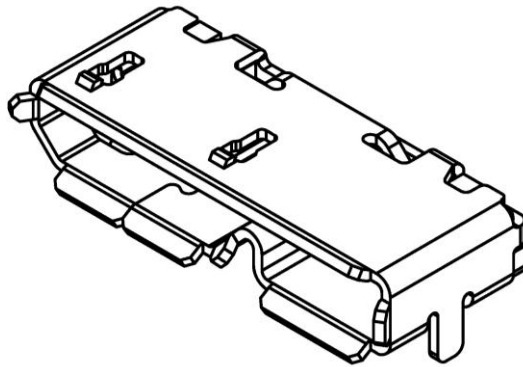


PRODUCT SPECIFICATION

| | | | | | | | |
|----------------------------|---|-----------------|-----------|----------------|-----------|-----------------|-----------|
| Part Number | USB3110 | Rev | B | Date | 15/06/11 | | |
| Product Description | USB3.0 Micro Receptacle, Type B, SMT, Horizontal, 10 Pin, Bottom mount, with Outer Shell Stakes | | | Page | 1 | | |
| Doc Number | USB3110 | Prepared | CM | Checked | DR | Approved | LH |



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PRODUCT SPECIFICATION

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|----------------------------|---|-----------------|-----------|----------------|-----------|-----------------|-----------|
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| Product Description | USB3.0 Micro Receptacle, Type B, SMT, Horizontal, 10 Pin, Bottom mount, with Outer Shell Stakes | | | Page | 2 | | |
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1.0 SCOPE.

This specification covers performance, tests and quality requirements for the USB3.0 Receptacle USB3110 (Type B, 10-Pin, SMT, Horizontal).

2.0 PRODUCT NAME AND PART NUMBER.

USB3.0 Receptacle, 10-Pin, Type B: USB3110.

3.0 PRODUCT SHAPE, DIMENSIONS AND MATERIAL.

Please refer to drawings.

4.0 RATINGS.

- 4.1 Current rating 1.5 A
- 4.2 Voltage rating 30 VAC
- 4.3 Operating Temperature Range -20°C to +60°C

5.0 TEST AND MEASUREMENT CONDITIONS.

Product is designed to meet electrical, mechanical and environmental performance requirements specified in Paragraph 6.0. All tests are performed in ambient conditions unless otherwise specified.

6.0 PERFORMANCE.

| Item | Test Condition | Requirement |
|------------------------|--|---|
| Examination of Product | Visual, dimensional and functional inspection as per quality plan. | Product shall meet requirements of product drawing and specification. |

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6.1 Electrical Performance.

| Item | Test Condition | Requirement |
|-------------------------------------|--|---|
| Low-signal Level Contact Resistance | Mate connectors, measure by dry circuit, 20 mV Max. 100mA Max. In accordance with EIA-364-23. | Initial: Contact $\leq 30m\Omega$ Shell $\leq 50m\Omega$ After Test: Contact $\Delta 20m\Omega$ Max. Shell $\Delta 20m\Omega$ Max. |
| Insulation Resistance | Unmated connector, mounted to a PCB: apply a voltage of 500 VDC between adjacent terminals and between terminals to ground. | 1000M Ω Min. |
| Dielectric Withstanding Voltage | 750 VAC rms (1mA cut off current) for 60seconds duration between adjacent terminals and terminals. | No breakdown. |
| Capacitance | Measured between adjacent circuits of un-mated connectors at 1kHz. In accordance with EIA-364-30. | 2 pF Max. |
| Temperature Rise | Mate connector and measure the temperature rise of contact when the maximum AC rated current is passed. In accordance with EIA-364-70. | 1.5A at 250 VAC Min. & Temperature rise: +30°C Max. |

6.2 Mechanical Performance.

| Item | Test Condition | Requirement |
|-------------------------|---|---|
| Mating / Unmating Force | Mated and unmated at rate of 200 \pm 50 cycles per hour. In accordance with EIA-364-13. | Initial: Mating force: 35N Max. Un-mating force: 10N Min. Final (after 10k cycles): Mating force: 35N Max. Un-mating force: 8N Min. |
| Durability | Insertion and withdrawal are repeated with card at the frequency of 550 cycles / hour max. In accordance with EIA-364-09. | 10,000 cycles. |
| Vibration | Mated connector and subject to the following vibration condition, for a period of 15 minutes in each 3 mutually perpendicular axes. In accordance with EIA-364-28, Test condition V, Test letter A. | Appearance: No Damage Contact Resistance: 30m Ω Max. Discontinuity: 1.0 μ second Max. |
| Terminal Retention | Apply a pull out force in the axial direction of the contact per Mil-STD-1344A method 2007.1. | 0.8 Kgf Min. |

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| Item | Test Condition | Requirement |
|------------------|---|---|
| Mechanical Shock | Mate connectors and subject to the following shock conditions, 3 shocks shall be applied along 3 mutually perpendicular axes, passing 100 mA current during the test. (Total of 18 shocks) Test Pulse: Half Sine Peak Value: 294 m/s ² (30G) Duration: 11ms. In accordance with EIA-364-27. | Appearance: No Damage Contact Resistance: 30mΩ Max. Discontinuity: 1.0μ second Max. |

6.3 Environmental Performance and Others.

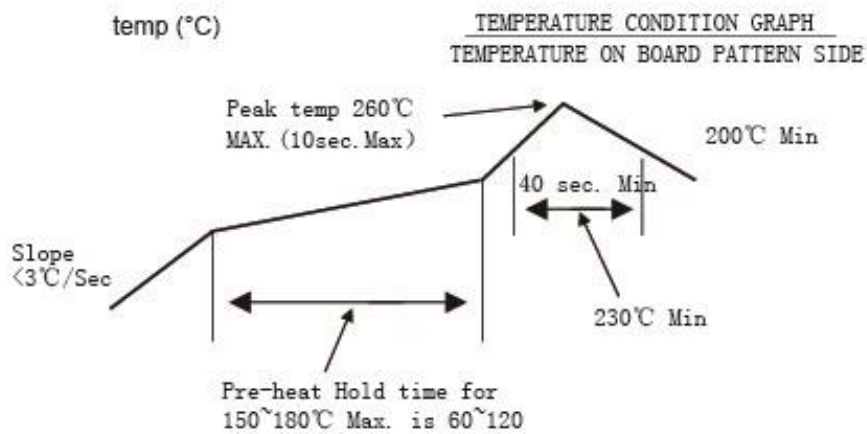
| Item | Test Condition | Requirement |
|-------------------------------------|--|---|
| Thermal Shock | Subject mated connector to 10 cycles of exposure at -55°C and 85°C. In accordance with EIA-364-32. | Contact Resistance: 30 mΩ Max. |
| Humidity Test | Mate connectors; Temperature: 40+/-2°C Relative humidity: 90-95% Duration time: 168 hours. | Contact Resistance: 30 mΩ Max. |
| Temperature Life | Subject mated connector to ambient temperature 125°C for 250 hours. In accordance with Mil-STD-1344A, method 1005.1 condition B. | 30 mΩ Max. Shall meet visual requirement and show no physical damage. |
| Solderability | Dip solder-tails in flux then immerse in solder bath at 245+/- 5 °C up to 0.5mm from the bottom of the housing for 4 ~ 5 seconds. In accordance with EIA-364-52 Category 2. | 95% of immersed area must show no voids, pin holes. |
| Solder Resistance | Dip connector terminal tails in solder: Solder Duration: 5±0.5 seconds Solder Temperature: 260±5°C Solder Iron Duration: 4-5 seconds Solder Iron Temperature: 350±10°C In accordance with MIL-STD-202F. | No Damage. |
| Resistance to Reflow Soldering Heat | Place connector in IR reflow, Peak temperature: 260 ± 5°C for 5±1 seconds. | No Damage. |

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6.4 Infrared Reflow Condition

Fig. 1. Lead-free Process: Duration = 2 Times.



PRODUCT SPECIFICATION

| | | | | | | | |
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7.0 PRODUCT QUALIFICATION AND TEST SEQUENCE

| Test Item | Test Group | | | | | | |
|-----------------------------------|------------|------|---------|------|------|------|------|
| | A | B | C | D | E | F | G |
| Examination of Product | 1, 10 | 1, 5 | 1, 7 | 1, 9 | 1, 3 | 1, 3 | 1, 3 |
| Low-signal Contact Resistance | 3, 7 | 2, 4 | 2, 4, 6 | | | | |
| Insulation Resistance | | | | 3, 7 | | | |
| Dielectric Withstanding Voltage | | | | 4, 8 | | | |
| Contact Capacitance | | | | 2 | | | |
| Temperature Rise | | | | | | 2 | |
| Mating / Unmating Force | 2, 8 | | | | | | |
| Durability | 4 | | | | | | |
| Vibration | 6 | | | | | | |
| Shock (Mechanical) | 5 | | | | | | |
| Cable Pull-out Force | 9 | | | | | | |
| Humidity | | | | 5 | | | |
| Thermal Shock | | | | 6 | | | |
| Temperature life | | 3 | | | | | |
| Mixed Flowing Gas | | | 3, 5 | | | | |
| Solderability | | | | | 2 | | |
| Resistance to hand soldering heat | | | | | | | 2 |

| | | | | | | | |
|-------------|---|---|---|---|---|---|---|
| Sample Size | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
|-------------|---|---|---|---|---|---|---|

PRODUCT SPECIFICATION

| | | | | | | | |
|----------------------------|---|-----------------|-----------|----------------|-----------|-----------------|-----------|
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Revision details :-

| Revision | Information | Page | Release Date |
|----------|-------------------------|------|--------------|
| A | Specification released. | - | 15/06/11 |
| B | General Process Removed | 5 | 05/01/12 |

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