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1.0 SCOPE.

This specification covers performance, tests and quality requirements for the USB Plug USB1061 (Type A, 4 Pin, Mid-Mount, Offset 1.43mm, SMT, Horizontal, Top Mount, Plastic Peg & Kinked Shell Stake).

2.0 PRODUCT NAME AND PART NUMBER.

USB Plug, Type A, 4 Pin, Mid-Mount, Horizontal, USB1061.

3.0 PRODUCT SHAPE, DIMENSIONS AND MATERIAL.

Please refer to drawings.

4.0 RATINGS.

- 4.1 Current rating 3.0 A
- 4.3 Operating Temperature Range -55°C TO +85°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.

| Iter | n | 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 level Contact Resistance | Subject mated contacts assembled in housing to 20mV Max open circuit at 100mA Max. In accordance with EIA-364- 23. | 30mΩ Max. |
| Insulation Resistance | Impressed voltage 500V DC. Test between adjacent circuits of unmated connector. In accordance with EIA-364-21. | 1000MΩ Min. |
| Dielectric withstanding Voltage | 500V AC for 1minute Test between adjacent circuits of unmated connector and in accordance with EIA-364-20. | No creeping discharge or flashover shall occur. Current leakage: 0.5mA Max. |

6.2 Mechanical Performance.

| Item | Test Condition | Requirement |
|------------------|--|--|
| Insertion Force | Operation Speed: 12.5 mm/min. Measure the force required to mate connector and in accordance with EIA-364-13. | 3.57KGf (35N) Max. |
| Extraction Force | Operation Speed: 12.5mm/min. Measure the force required to unmate connector and in accordance with EIA-364-13. | 1.02KGf(10N) Min. |
| Durability | Operation Speed: 200 cycle/Hour Durability Cycles: 5000 Cycles In accordance with EIA-364-09. | Contact Resistance 30mΩ. Mating force: 3.57KGf (35N) Max. Unmating force: 1.02KGf(10N) Min. Contact resistance: 10mΩ change Max. |
| Random Vibration | Mate connectors and subject to 5.35 Gs RMS. For a period of 15 minutes in each of 3 mutually perpendicular axes. In accordance with EIA-364-28D. | No electrical discontinuity greater than 1 μsec. shall occur. No damage to product. Contact resistance: 10 mΩ change Max. |
| Mechanical Shock | Accelerate Velocity: 30Gs Waveform: Half-sine shock plus Duration: 11msec Three shocks in each direction applied along three mutually perpendicular planes for a total of 18 shocks. In accordance with EIA-364-27 | No electrical discontinuity greater than 1 μsec. shall occur. No damage to product. Contact resistance: 10mΩ change Max. |



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6.3 Environmental Performance and Others.

| Item | Test Condition | Requirement |
|--|--|--|
| Solderability | Solder pot temperature: 245 \pm 5°C, 5sec | The inspected area of each lead must have 95% solder coverage minimum. |
| Thermal Shock | Mated Connector -55°C and +85°C Perform this a cycle, repeat 10 cycles. In accordance with EIA-364-32. | Contact resistance: 10 mΩ change Dielectric withstanding Voltage : no breakdown Insulation Resistance: 100 MΩ Mir |
| Humidity | Mated Connector 40°C, 90~95% RH, 168hours. In accordance with EIA-364-31. | Contact resistance: 10 mΩ change Dielectric withstanding Voltage : no breakdown Insulation Resistance: 100 MΩ Mir |
| Temperature life | Subject mated connectors to temperature life at 85 for 500hours ,In accordance with EIA 364-17 Test Condition 2 Method A | Contact resistance: 10 mΩ change |
| Salt Spray | Subject mated connectors to 35+/-2°C and 5+/-1% salt condition for 8hours. After test, rinse the sample with water and recondition the room temperature for 1 hour. In accordance with EIA-364-26. | No detrimental corrosion allowed i contact area and base metal exposed. |
| Resistance to Reflow Soldering Heat | Mount Connector, place in reflow oven and expose to the temperature profiles shown in fig 1 | No evidence of physical damage of abnormalities adversely affecting performance. |



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7.0 PRODUCT QUALIFICATION AND TEST SEQUENCE

| Test Item | | | | Test (| Group | | | |
|--|------|------|------|--------|-------|------|------|--|
| restitem | Α | В | C | D | E | F | G | |
| Examination of Product | 1,7 | 1, 9 | 1, 6 | 1, 5 | 1, 5 | 1, 3 | 1, 3 | |
| Contact Resistance | 2,8 | 3, 7 | 2,5 | 2, 4 | 2, 4 | | | |
| Dielectric Withstanding Voltage | 3,9 | | | | | | | |
| Insulation Resistance | 4,10 | | | | | | | |
| Mating Force | | 2, 6 | | | | | | |
| Unmating Force | | 4, 8 | | | | | | |
| Durability | | 5 | | | | | | |
| Random Vibration | | | 4 | | | | | |
| Mechanical Shock | | | 3 | | | | | |
| Temperature life | | | | 3 | | | | |
| Solderability | | | | | | | 2 | |
| Resistance to reflow soldering Heat | | | | | | 2 | | |
| Thermal Shock | 5 | | | | | | | |
| Humidity | 6 | | | | | | | |
| Salt Spray | | | | | 3 | | | |



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| levision | Information | Page | Release Date |
|----------|---|------|--------------|
| А | Specification released. | - | 31/10/14 |
| A1 | Change current rating form 1.5A to 3A; change durability from 1500 cycles to 5000 cycles. | 2&3 | 12/03/21 |

