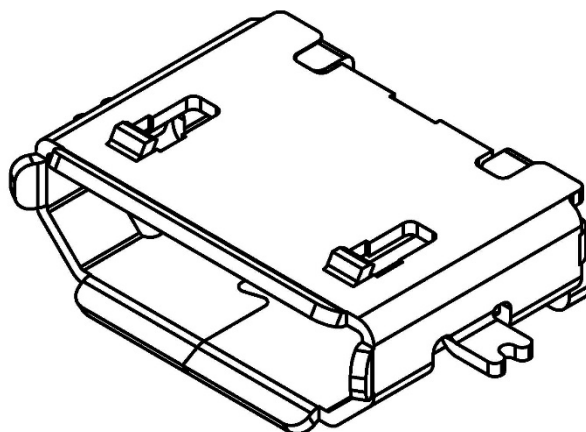


# PRODUCT SPECIFICATION

|                     |  |          |    |         |    |          |      |          |
|---------------------|--|----------|----|---------|----|----------|------|----------|
| Part Number         | USB3070  |          |    | Rev     | E  |          | Date | 10/12/14 |
| Product Description | Micro USB Receptacle, Type B, 5 Pin, Mid Mount SMT, Horizontal, Bottom Mount, Offset 1.00mm, without peg |          |    |         |    |          | Page | 1        |
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# PRODUCT SPECIFICATION

|                     |  |          |     |         |    |          |          |
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## 1.0 SCOPE.

This specification covers performance, tests and quality requirements for the Micro USB Receptacle USB3070 (Type B, 5-Pin, SMT, Offset 1.00mm, Horizontal).

## 2.0 PRODUCT NAME AND PART NUMBER.

Micro USB Receptacle, 5 Pin, Type B: USB3070.

## 3.0 PRODUCT SHAPE, DIMENSIONS AND MATERIAL.

Please refer to drawings.

## 4.0 RATINGS.

4.1 Current rating: Signal (Pins 2, 3, 4) 1.0A

Power (Pins1, 5)..... 1.8A

4.2 Voltage rating ..... 30V AC

4.3 Operating Temperature Range ..... -30°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.

| 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. |



# PRODUCT 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. In accordance with EIA-364-23.   | 30 mΩ Max.    |
| Insulation Resistance               | Mate/Un-mate connectors, apply 100V DC for 1 minute at sea level between adjacent terminal or ground. In accordance with EIA-364-21. | 1000 MΩ Min.  |
| Dielectric Strength                 | Mate/Un-mate connectors, apply 100V AC for 1 minute at sea level. In accordance with EIA-364-20.                                     | No Breakdown. |

## 6.2 Mechanical Performance.

| Item                             | Test Condition  | Requirement  |
|----------------------------------|---|--|
| Mating/Un-mating Force (initial) | Mate/Un-mated at a rate of 12.5mm/min. In accordance with EIA-364-13.   | Mating force: 35N Max.<br>Un-Mating force: 8N Min. to 25N Max.   |
| Durability                       | Cycle rate, 500 cycles per hour if done automatically and 200 if manual cycles. In accordance with EIA-364-09.  | 10,000 cycles.<br>Low Level Contact Resistance: 30mΩ Max.  |
| Vibration                        | Mate connectors and subject to 5.35 Gs RMS. For a period of 15 minutes in each of the 3 mutually perpendicular axes. In accordance with EIA-364-28<br>Test condition V test letter A.   | Appearance: No Damage.<br>Contact Resistance: 50 mΩ Max.<br>Discontinuity: 1.0 μ second Max.                 |
| Mechanical Shock                 | Mate connectors and subject to the following shock conditions, 3 shocks shall be applied along 3 mutually perpendicular axis, passing 100 mA current during the test. (Total of 18 shocks) Test Pulse: Half Sine Peak Value: 294 m/s <sup>2</sup> (30G)<br>Duration: 11ms.<br>In accordance with EIA-364-27.<br>Test condition H. | Appearance: No Damage.<br>Contact Resistance: 10 mΩ Max. change allowed.<br>Discontinuity: 1.0 μ second Max. |



# PRODUCT SPECIFICATION

|                     |  |          |    |         |          |          |    |
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| Product Description | Micro USB Receptacle, Type B, 5 Pin, Mid Mount SMT, Horizontal, Bottom Mount, Offset 1.00mm, without peg |          |    | Page    | 4        |          |    |
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## 6.3 Environmental Performance and Others.

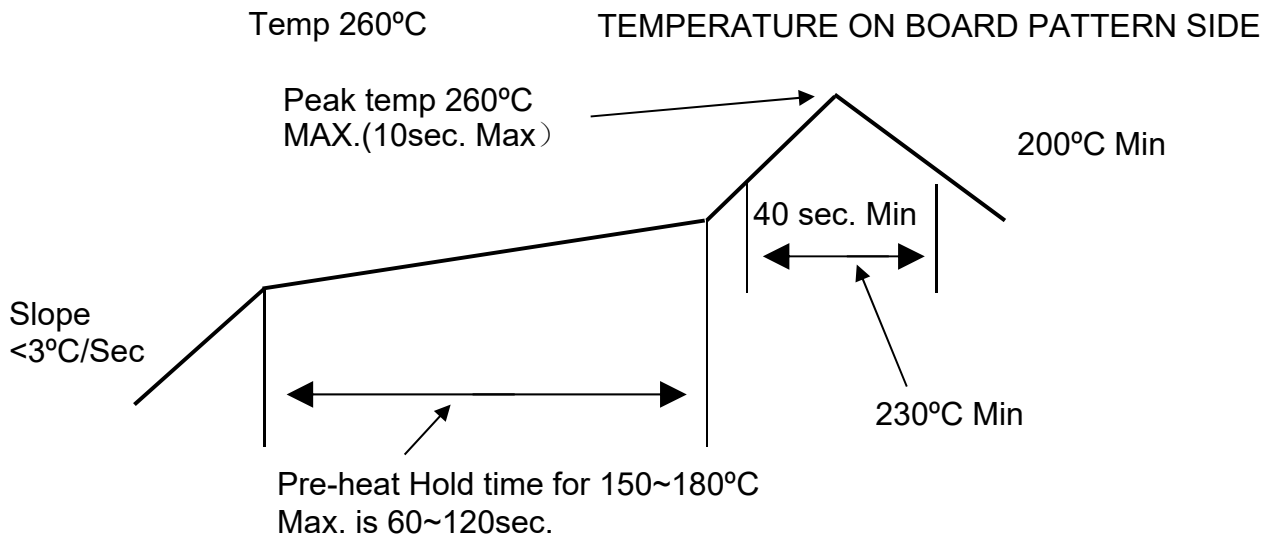
| Item  | Test Condition  | Requirement   |
|---|---|---|
| Humidity Test                                   | Subject mated connectors to Duration: 168 hours temperature between -25°C to +65°C with 90 to 95% RH. In accordance with EIA-364-31. Test condition A method III        | Appearance: No Damage.<br>Contact Resistance: 10 mΩ Max. change allowed.<br>Insulation Resistance: 1000 MΩ Min.<br>Dielectric Strength: No Breakdown. |
| Salt Spray                                      | Subject mated/unmated connectors to 5% salt-solution concentration, 35°C for 48 hours. In accordance with EIA-364-26, Test Condition B.                                 | Low Level Contact Resistance: 50mΩ Max.<br>No visible rust  |
| Temperature Life                                | Subject mated connectors to temperature life at +85°C for 96hours. In accordance with EIA-364-17. Test condition 2 Method A.  | Contact Resistance: 10 mΩ Max. change allowed.<br>Insulation Resist.: 1000 MΩ Min.<br>Shall meet visual requirement and show no physical damage.      |
| Temperature Rise                                | Mate connector and measure the temperature rise of contact when the maximum rated current is passed and in accordance with EIA-364-70.                                  | +30°C Max. change allowed.  |
| Thermal Shock                                   | Mate module and subject to follow condition for 10 cycles. At -55°C to +85°C. In accordance with EIA-364-32, test condition I.  | No Damage<br>10mΩ Max. change allowed.<br>Insulation Resist: 1000 MΩ Min.<br>Dielectric Strength: No Breakdown.                                       |
| 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.   |
| Resistance to Soldering Heat (Reflow Soldering) | Sample mounted on PCB and subject to solder bath method, Temperature:260°C for 10±1 sec (High Temp. Thermoplastic). In accordance with EIA-364-56.                      | Without deformation of shell or excessive looseness of the terminals (pin.)   |
| Resistance to Soldering Heat (Hand Soldering)   | Sample mounted on PCB and subject to hand iron soldering, Temperature:350±10°C for 3±1 sec (High Temp. Thermoplastic).  | Without deformation of shell or excessive looseness of the terminals (pin.)   |

# PRODUCT SPECIFICATION

|                            |  |                 |           |                |           |
|----------------------------|--|-----------------|-----------|----------------|-----------|
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|                            |  | <b>Approved</b> | <b>VJ</b> |                |           |

## 7.0 RESISTANCE TO INFRARED REFLOW SOLDERING HEAT

### 7.1 Lead Free Process: Reflow soldering cycles limited to two times



## 8.0 PRODUCT QUALIFICATION AND TEST SEQUENCE

| Test Item                           | Test Group |     |     |     |     |     |     |     |     |     |     |
|-------------------------------------|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                                     | A          | B   | C   | D   | E   | F   | G   | H   | I   | J   | K   |
| Examination of Product              | 1 5        | 1 4 | 1 5 | 1 4 | 1 4 | 1 6 | 1 4 | 1 4 | 1 3 | 1 3 | 1 3 |
| Low-signal Level Contact Resistance | 2          | 2 5 | 2 6 | 2 5 | 2 5 | 2 7 | 2 5 | 2 5 |     |     |     |
| Insulation Resistance               | 3          |     |     |     |     | 3 8 |     |     |     |     |     |
| Dielectric Withstanding Voltage     | 4          |     |     |     |     | 4 9 |     |     |     |     |     |
| Mating / Unmating Forces            |            | 3   |     |     |     |     |     |     |     |     |     |
| Durability                          |            |     | 3   |     |     |     |     |     |     |     |     |
| Vibration                           |            |     | 4   |     |     |     |     |     |     |     |     |
| Mechanical Shock                    |            |     |     | 3   |     |     |     |     |     |     |     |
| Humidity                            |            |     |     |     | 3   |     |     |     |     |     |     |
| Salt Spray                          |            |     |     |     |     | 5   |     |     |     |     |     |
| Temperature Life                    |            |     |     |     |     |     | 3   |     |     |     |     |
| Temperature Rise                    |            |     |     |     |     |     |     | 3   |     |     |     |
| Thermal Shock                       |            | 2   |     |     |     |     |     |     |     |     |     |
| Solderability                       |            |     |     |     |     |     |     |     | 4   |     |     |
| Resistance to Reflow Soldering Heat |            |     |     |     |     |     |     |     |     | 2   |     |
| Resistance to Hand Soldering Heat   |            |     |     |     |     |     |     |     |     |     | 2   |

# PRODUCT SPECIFICATION

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

| Revision | Information                                     | Page            | Release Date |
|----------|---|-----------------|--------------|
| A        | Specification released.                         | -               | 18/04/11     |
| B        | New current rating.                             | 2               | 31/10/11     |
| C        | Specification revision.                         | -               | 04/07/12     |
| D        | Thermal Shock & Mating/Umating Additional Info. | 3, 4            | 10/06/13     |
| E        | Offset definition changed from 1.59 to 1.00mm   | Header & Page 2 | 10/12/14     |

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