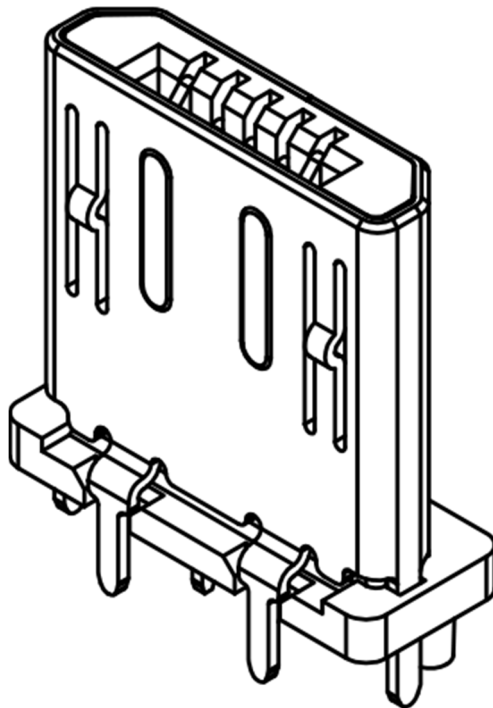


# PRODUCT SPECIFICATION

<b>Part Number</b>	USB3150	<b>Rev</b>	A	<b>Date</b>	30/04/15		
<b>Product Description</b>	Micro USB Plug, Type B, Through-Hole, Vertical, with Shell Stakes and Locating Pegs			<b>Page</b>	1		
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## 1.0 SCOPE.

This specification covers performance, tests and quality requirements for the Micro USB Plug. USB3150 (Type B, Through-Hole, Vertical with Shell Stakes and Locating Pegs).

## 2.0 PRODUCT NAME AND PART NUMBER.

Micro USB Plug, 5 Pin, Type B: USB3150.

## 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.

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## 6.1 Electrical Performance.

Item	Test Condition	Requirement
Low-signal Level Contact Resistance(initial)	Mate connectors, measure by dry circuit, 20mV, 100mA Max. In accordance with EIA-364-23.	30mΩ Max.
Insulation Resistance	Mate connectors, apply 100V DC for 1 minute at sea level between adjacent terminal or ground. In accordance with EIA-364-21.	1000MΩ Min.
Dielectric Strength	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. 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. Low Level Contact Resistance: 10mΩ Max. change allowed. Mating force: 35N Max. Un-Mating force: 8N Min. to 25N 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 Test condition V test letter A.	Appearance: No Damage. Contact Resistance: 10mΩ Max. change allowed. Discontinuity: 1.0μ 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) Duration: 11ms. In accordance with EIA-364-27. Test condition H.	Appearance: No Damage. Contact Resistance: 10mΩ Max. change allowed. Discontinuity: 1.0μ second Max.

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## 6.3 Environmental Performance and Others.

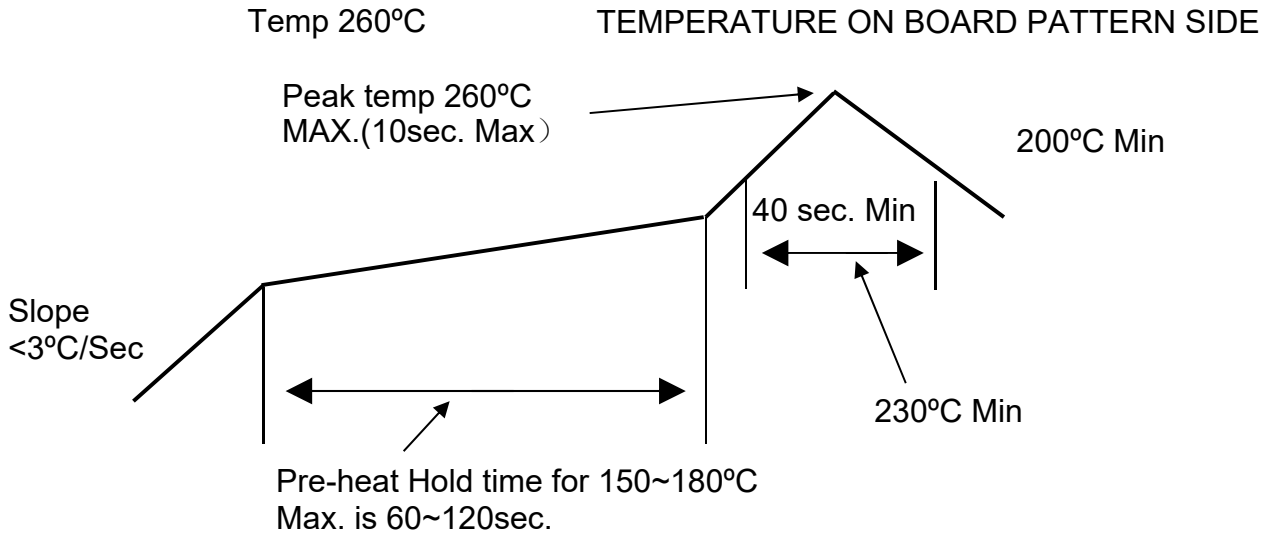
Item	Test Condition	Requirement
Cyclic Humidity Test	Subject mated connectors to Duration: 168 hours (7 cycles) temperature between -25°C to +65°C with 90 to 95% RH. In accordance with EIA-364-31. Test condition A method III	Appearance: No Damage. Contact Resistance: 10mΩ Max. change allowed. Insulation Resistance: 1000MΩ Min. 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. 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: 10mΩ Max. change allowed. 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 10mΩ Max. change allowed.
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.)

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## 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	
Examination of Product	1,6	1,7	1,10	1,5	1,5		1, 3	1, 3	1, 3	
Low-signal Level Contact Resistance	2,5	3,6	4,7	2,4	2,4					
Insulation Resistance			2,8							
Dielectric Withstanding Voltage			3,9							
Mating / Unmating Forces		2,5								
Durability		4								
Vibration	4									
Mechanical Shock	3									
Humidity			6							
Salt Spray				3						
Temperature Life					3					
Temperature Rise						1				
Thermal Shock			5							
Solderability							2			
Resistance to Reflow Soldering Heat								2		
Resistance to Hand Soldering Heat									2	

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## Revision details :-

Revision	Information	Page	Release Date
A	Specification released.	-	09/10/14