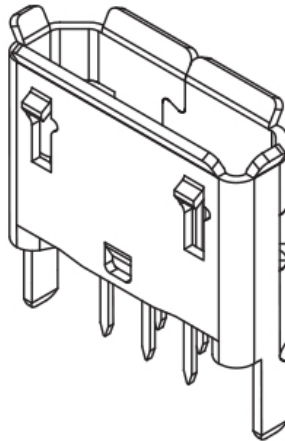


# PRODUCT SPECIFICATION

<b>Part Number</b>	USB3131	<b>Rev</b>	A	<b>Date</b>	03/12/13		
<b>Product Description</b>	Micro USB Receptacle, Type B, Vertical, Through-Hole with 2.30mm (Standard) Shell Stakes				<b>Page</b>	1	
<b>Doc Number</b>	USB3131-SPEC	<b>Prepared</b>	<b>AO</b>	<b>Checked</b>	<b>RM</b>	<b>Approved</b>	<b>VJ</b>



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## 1.0 SCOPE.

This specification covers performance, tests and quality requirements for the Micro USB Receptacle USB3105 (Type AB, 5-Pin, Through Hole, Vertical).

## 2.0 PRODUCT NAME AND PART NUMBER.

Micro USB Receptacle, Type B, Vertical,  
Through-Hole with 2.30mm (Standard) Shell Stakes: USB3131.

## 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 .....    30 V
- 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.

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	Subject mated contacts assembled in housing to 20mV Max open circuit at 100mA Max. In accordance with EIA-364-23.	30 mΩ max.
Insulation Resistance	Mate/Un-mate connectors, apply 100V DC for 1 minute between adjacent terminal or ground. In accordance with EIA-364-21.	1000 MΩ min.
Dielectric Withstanding Voltage	The dielectric must withstand 100VAC for one minute. In accordance with EIA-364-20.	No Breakdown
Temperature Rise	Mated plugs and measure the temperature rise of contact when the maximum rated current is passed. In accordance with EIA-364-70	30°C max change allowed

## 6.2 Mechanical Performance.

Item	Test Condition	Requirement
Mating Force	Operation Speed: 12.5 mm/min. Measure the force required to mate connector. In accordance with EIA-364-13.	35N max.
Un-mating Force	Operation Speed: 12.5mm/min. Measure the force required to unmate connector. In accordance with EIA-364-13.	Initial: 10N min. Final: 8N min. 25N max.
Durability	Operation Speed: 500 cycle/Hour (automatically) or 200 cycle/Hour (manual cycle) Durability Cycles: 10,000 Cycles In accordance with EIA-364-09.	Appearance: No breakdown Mating force: 35N maximum. Un-mating force: 8N minimum. 25N max LLCR: 30 mΩ max.
Vibration	Mated USB connectors are subjected to 5.35 GRMS. 15minutes in each of three mutually perpendicular planes. In accordance with EIA-364-28 Test Condition V Test Letter A	Appearance: No Damage Contact Resistance: 10 mΩ max change allowed. Discontinuity: 1.0 microsecond max.

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Item	Test Condition	Requirement
Mechanical Shock	Mated USB connectors are subjected to 5.35 GRMS. 15minutes in each of three mutually perpendicular planes. In accordance with EIA-364-28. Test Condition V Test Letter A	Appearance: No Damage Contact Resistance: 10 mΩ max Change allowed. Discontinuity: 1 microsecond max.

### 6.3 Environmental Performance and Others.

Item	Test Condition	Requirement
Thermal Shock	Subject the mated connectors to 10 cycles between -55°C to +85°C. In accordance with EIA364-32, Test Condition I.	Appearance: No Damage Contact Resistance: 10 mΩ max change allowed.
Humidity Test	168 Hours minimum (seven complete cycles) In accordance with EIA-364-31. Test Method III	Appearance: No Damage Contact Resistance: 10 mΩ max change allowed.
Salt Spray	Subject mated/unmated connectors to 5% salt-solution concentration, 35°C for 24 hours. In accordance with EIA-364-26.	No visible rust
Temperature Life	Mate plugs and expose to 85 +/- 2°C for 500 hours, Upon completion of the exposure period, the test specimens shall be conditioned at ambient room conditions for 1 to 2 hours, after which the specified measurements shall be performed. In accordance with EIA-364-17.	Appearance: No Damage Contact Resistance: 10 mΩ max change allowed.
Solderability	Dip solder-tails in solder bath at 245 +/- 5°C for 4.5 ~ 5.5 seconds In accordance with MIL-STD-202F, Method 208	95% of immersed area must show no voids, pin holes
Resistance to Soldering Heat (Wave Solder)	Subject mate connectors to chamfer with temperature: 260 +/- 5 °C time: 3-5 seconds	Without deformation of case or excessive looseness of the terminals (pin)
Resistance to Soldering Heat (Reflow Solder)	Subject mate connectors to reflow machine with peak temperature: 260 +/- 5°C peak temperature duration: 10 seconds	Without deformation of case or excessive looseness of the terminals (pin)

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## 7.0 PRODUCT QUALIFICATION AND TEST SEQUENCE

Test Item	Test Group									
	1	2	3	4	5	6	7	8	9	10
Examination of Product	1	1, 6	1, 6	1, 6	1, 5	1, 3	1, 3	1, 3		1, 3
Contact Resistance	4	2, 5	2, 5	2, 5	2, 4					
Dielectric Withstanding Voltage	3									
Insulation Resistance	2									
Mating Force		2, 4								
Unmating Force		2, 4								
Temperature Rise									1	
Durability		3								
Vibration			3							
Mechanical Shock			4							
Solderability							2			
Humidity				3						
Salt Spray						2				
Temperature Life					3					
Resistance to Soldering Heat (reflow)								2		
Resistance to Soldering Heat (wave)										2
Thermal Shock				4						
<b>Sample Size</b>	5	5	5	5	5	5	5	5	5	5

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## Revision details :-

Revision	Information	Page	Release Date
A	Specification Released.	-	03/12/13

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