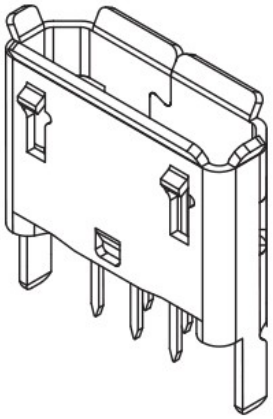
PRODUCT SPECIFICATION

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



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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.

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.

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)

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						
Sample Size	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