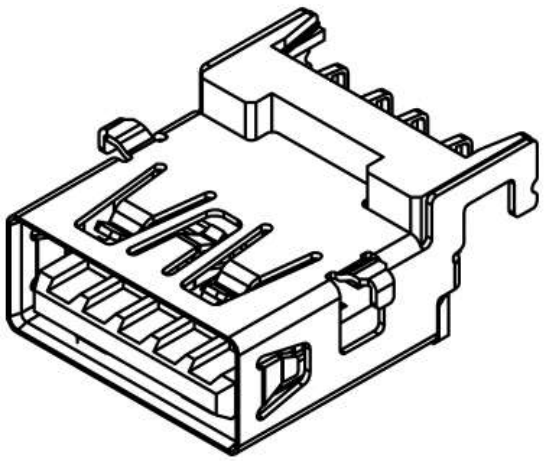
PRODUCT SPECIFICATION

Part Number	USB1110		**Rev**	B		**Date**	10/12/14
Product Description	USB 3.0 Receptacle, Type A, Full Size, Offset 5.77mm Mid-Bottom Mount, Through-Hole, Horizontal					**Page**	1
Doc Number	USB1110	**Prepared**	**AO**	**Checked**	**ST**	**Approved**	**VJ**



PRODUCT SPECIFICATION

Part Number	USB1110		**Rev**	B		**Date**	10/12/14
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1.0 SCOPE.

This specification covers performance, tests and quality requirements for the USB Receptacle USB1110 (Type A, Offset 5.77mm, Through-Hole, Horizontal, Mid-Bottom Mount).

2.0 PRODUCT NAME AND PART NUMBER.

USB 3.0 Receptacle, Type A, Full Size, Through-Hole, Mid-Bottom Mount, Horizontal, USB1110.

3.0 PRODUCT SHAPE, DIMENSIONS AND MATERIAL.

Please refer to drawings.

4.0 RATINGS.

4.1 Current rating ……. 0.25A (Signal Pins 2,3,5,6,7,8,9), 1.8A (Power Pins 1,4)

4.2 Voltage rating ……. 100 V AC/DC

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	Mate connectors, measure by dry circuit, 20mV Max., 100mA Max. In accordance with EIA-364-23.	30mΩ Max.
Insulation Resistance	Unmated connectors, apply 100 V DC between adjacent terminals. In accordance with EIA-364-21.	1000 M Ω Min.
Dielectric Withstanding Voltage	Test between adjacent contacts of unmated connectors. In accordance with EIA-364-20.	100 V AC Min. at sea level for 1 minute. No discharge, flashover or breakdown.
Temperature Rise	Mate connector: measure the temperature rise when the maximum AC rated current is passed. In accordance with EIA-364-70.	30°C max. change allowed.

6.2 Mechanical Performance.

Item	Test Condition	Requirement
Mating / Unmating Force	Mated and unmated at rate of 12.5mm cycles per minute. In accordance with EIA-364-13.	Mating force: 35N Max. Un-mating force: 10N Min.
Durability	Insertion and withdrawal are repeated with card for 5,000 cycles at the frequency of 500 Cycles (automatically) & 200 Cycles (manually) / hour max. Mating force of 35N Max.& Unmating force 8N Min. In accordance with EIA-364-09.	Appearance:No breakdown Mating force :35N max. Un-mating force :8N min. after test. LLCR: 40 milliohm max.
Vibration	No discontinuities of 1μS or longer duration when mated USB connectors are subjected to 3.10 GRMS. 15 minutes in each of three mutually perpendicular planes. In accordance with EIA-364-28 Test Condition VII, Test Letter D.	No Damage Discontinuity: 1 μsecond Max.

6.3 Environmental Performance and Others.

Item	Test Condition	Requirement
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 10 mΩ max. change allowed.
Mechanical Shock	Mated USB connectors are subjected to 11ms duration 30Gs half-sine shock pules. Three shocks in each direction applied along three mutually perpendicular planes for 18 shocks. In accordance with EIA-364-27, test condition H.	No Damage Discontinuity: 1.0 μsecond max.
Humidity & Temperature Cycling Test	Mate Connector and expose to temperature of 25~65°C±3, 50~80%RH±3, Ramp times should be 0.5 hour & dwell should be 1 hour, 1 cycle 24H. Dwell times start when the temperature is stabilized within the specified levels. In accordance with EIA-364-31, Test condition A.	No Damage 10 mΩ max. change allowed.
Temperature Life	Subject mated connectors to temperature life at 105°C for 120 hours. Measure Signal. In accordance with EIA-364-17, Test condition A.	No Damage 10 mΩ max. change allowed.
Solderability	Dip solder-tails in flux then immerse in solder bath at 255±5 °C up to 0.5mm from the bottom of the housing for 5 seconds. In accordance with EIA-364-52, Category 2.	95% of immersed area must show no voids, pin holes.

Item	Test Condition	Requirement
Resistance to Solder Heat (Wave Soldering)	Heat: 260±5°C, 10+2/-0 sec. In accordance with EIA-364-56	Sample mounted on PCB and subject to wave soldering. Without deformation of case or excessive looseness of the terminals/pin (DIP only).
Resistance to Solder Heat (Reflow Soldering)	For procedures other than specified below, refer to IEC PUB, 68-2-20. Test Tb Method 1A or 2 Solder bath method Solder temperature: 260±5°C Immersion time: 10±1 second. Thickness of PCB: 0.8mm. In accordance with EIA-364-56	Without deformation of case or excessive looseness of the terminals/pin (SMT only).
Resistance to Solder Heat (Hand Soldering)	Solder iron method solder temperature: 350±10°C Immersion time: 3±1 seconds, however excessive pressure shall not be applied to the terminal	Without deformation of case or excessive looseness of the terminals/pin.

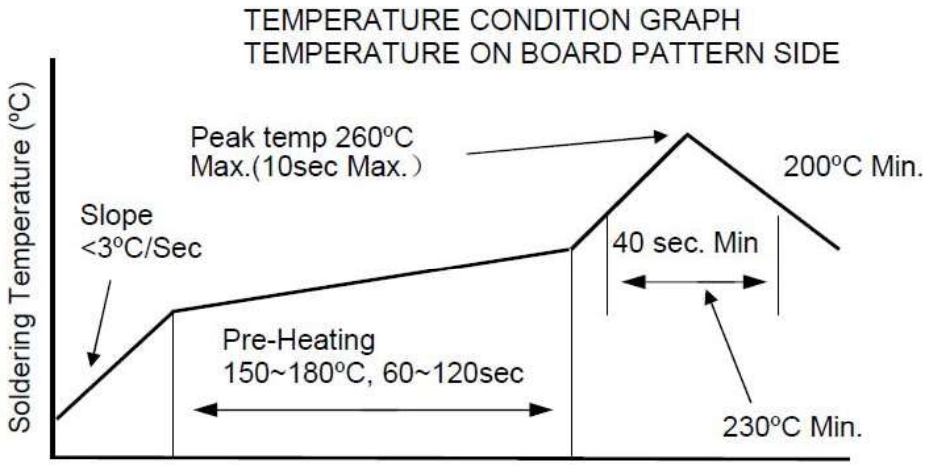


Fig 1 – Temperature profile of Reflow Soldering at 260°C Max.

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7.0 PRODUCT QUALIFICATION AND TEST SEQUENCE

Test Item	Test Group								
	1	2	3	4	5	6	7	8	9
Examination of Product	1, 3	1, 10	1, 6	1, 7	1, 6	1, 4	1, 4	1, 3	1, 3
Low-signal Contact Resistance		2, 9	2, 5	2, 4, 6	2, 9	2, 5			
Insulation Resistance					5				
Dielectric Withstanding Voltage		3, 8							
Temperature Rise	2								
Mating / Unmating Force		4, 7							
Durability		5							
Vibration			3						
Thermal Shock			4						
Mechanical Shock				5					
Humidity & Temperature Cycling		6							
Temperature Life				3					
Solderability							2		
Resistance to Wave Soldering Heat								2	
Resistance to Reflow Soldering Heat									2
Resistance to Hand Soldering Heat							3		
Sample Size	5	5	5	5	5	5	5	5	5

PRODUCT SPECIFICATION

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Revision details :-

Revision	Information	Page	Release Date
A	Specification Released	-	27/01/14
B	Offset definition changed from not specified to 5.77mm	Header & Page 2	10/12/14

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