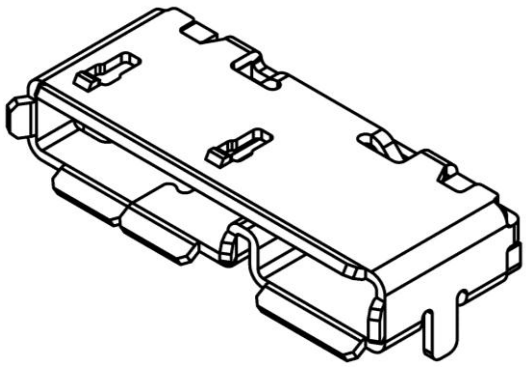
PRODUCT SPECIFICATION

Part Number	USB3120		**Rev**	B		**Date**	15/06/11
Product Description	USB3.0 Receptacle, Type AB, 10 Pin, SMT, Horizontal, Bottom Mount, Outer Shell Stakes					**Page**	1
Doc Number	USB3120	**Prepared**	**CM**	**Checked**	**DR**	**Approved**	**LH**



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1.0 SCOPE.

This specification covers performance, tests and quality requirements for the USB3.0 Receptacle USB3120 (Type AB, 10-Pin, SMT, Horizontal).

2.0 PRODUCT NAME AND PART NUMBER.

USB3.0 Receptacle, 10-Pin, Type AB: USB3120.

3.0 PRODUCT SHAPE, DIMENSIONS AND MATERIAL.

Please refer to drawings.

4.0 RATINGS.

4.1 Current rating ……. 1.5 A

4.2 Voltage rating …… 30 VAC

4.3 Operating Temperature Range …… -20°C to +60°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, 20 mV Max. 100mA Max. In accordance with EIA-364-23.	Initial: Contact ≤30mΩ Shell ≤50mΩ After Test: Contact Δ20mΩ Max. Shell Δ20mΩ Max.
Insulation Resistance	Unmated connector, mounted to a PCB: apply a voltage of 500 VDC between adjacent terminals and between terminals to ground.	1000 MΩ Min.
Dielectric Withstanding Voltage	750 VAC rms (1mA cut off current) for 60seconds duration between adjacent terminals and terminals.	No Breakdown.
Capacitance	Measured between adjacent circuits of un-mated connectors at 1kHz. In accordance with EIA-364-30.	2 pF Max.
Temperature Rise	Mate connector and measure the temperature rise of contact when the maximum AC rated current is passed EIA-364-70.	1.5A at 250 VAC Min & Temperature rise: +30°C Max.

6.2 Mechanical Performance.

Item	Test Condition	Requirement
Mating / Unmating Force	Mated and unmated at rate of 200 ±50 cycles per hour. In accordance with EIA-364-13.	Initial: Mating force: 35N Max. Un-mating force: 10N Min. Final (after 10k cycles): Mating force: 35N Max. Un-mating force: 8N Min.
Durability	Insertion and withdrawal are repeated with card at the frequency of 550 cycles / hour max. In accordance with EIA-364-09.	10,000 cycles.
Vibration	Mated connector and subject to the following vibration condition, for a period of 15 minutes in each 3 mutually perpendicular axes. In accordance with EIA-364-28,Testcondition V, Test letter A.	Appearance: No Damage Contact Resistance: 30mΩMax. Discontinuity: 1.0μ second Max.
Terminal Retention	Apply a pull out force in the axial direction of the contact per Mil-STD-1344A method 2007.1.	0.8 Kgf minimum.

Item	Test Condition	Requirement
Mechanical Shock	Mate connectors and subject to the following shock conditions, 3 shocks shall be applied along 3 mutually perpendicular axes, passing 100 mA current during the test. (Total of 18 shocks) Test Pulse: Half Sine Peak Value: 294 m/s² (30G) Duration: 11ms. In accordance with EIA-364-27.	Appearance: No Damage Contact Resistance: 30mΩMax. Discontinuity: 1.0μ second Max.

6.3 Environmental Performance and Others.

Item	Test Condition	Requirement
Thermal Shock	Subject mated connector to 10 cycles of exposure at -55°C and 85°C. In accordance with EIA-364-32.	Contact Resistance 30mΩ Max.
Humidity Test	Mate connectors: Temperature: 40+/-2 °C . Relative humidity: 90-95%. Duration time: 168 hours.	Contact Resistance 30mΩ Max.
Temperature Life	Subject mated connector to ambient temperature 125°C for 250 hours. In accordance with Mil-STD-1344A method 1005.1condition B.	30 milliohms Max. Shall meet visual requirement, show no physical damage.
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 for4 ~ 5 seconds. In accordance with EIA-364-52 (Category 2).	95% of immersed area must show no voids, pin holes.
Solder Resistance	Dip connector terminal tails in solder: Solder Duration: 5±0.5 seconds Solder Temperature: 260±5°C Solder Iron Duration: 4-5 seconds Solder Iron Temperature: 350±10°C In accordance with MIL-STD-202F.	No Damage.
Resistance to Reflow Soldering Heat	Place connector in IR reflow, peak temperature:260 ± 5°C for 5±1 seconds.	No Damage.

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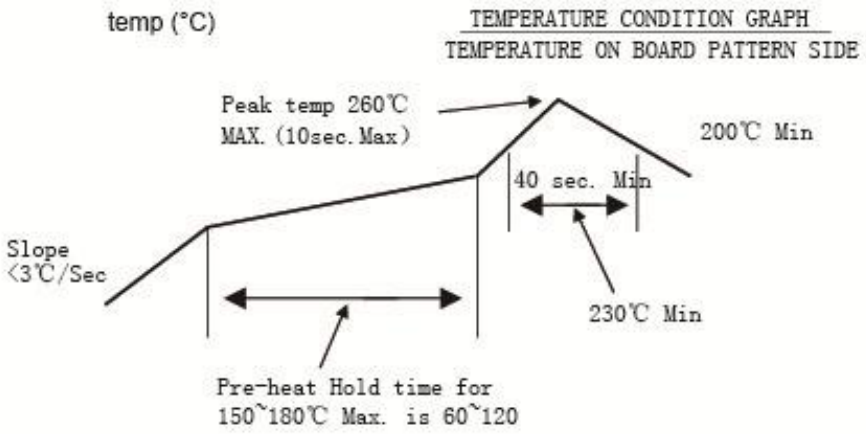
6.4 Infrared Reflow Condition

Fig. 1. Lead-free Process: Duration = 2 Times



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7.0 PRODUCT QUALIFICATION AND TEST SEQUENCE

Test Item	**Test Group**						
	A	**B**	**C**	**D**	**E**	**F**	**G**
Examination of Product	1, 10	1, 5	1, 7	1, 9	1, 3	1, 3	1, 3
Low-signal Level Contact Resistance	3, 7	2, 4	2,4,6				
Insulation Resistance				3, 7			
Dielectric Withstanding Voltage				4, 8			
Contact Capacitance				2			
Temperature Rise						2	
Mating / Unmating Forces	2, 8						
Durability	4						
Vibration	6						
Shock (Mechanical)	5						
Cable Pull-out Force	9						
Humidity				5			
Thermal Shock				6			
Temperature Life		3					
Mixed Flowing Gas			3, 5				
Solderability					2		
Resistance to Hand Soldering Heat							2
Sample Size	8	8	8	8	8	8	8

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Revision details :-

Revision	Information	Page	Release Date
A	Specification released.	-	15/06/11
B	General process removed.	5	05/01/12

Contact details

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