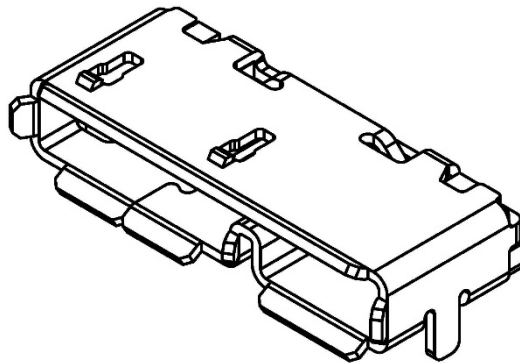


PRODUCT SPECIFICATION

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Product Description	USB3.0 Receptacle, Type AB, 10 Pin, SMT, Horizontal, Bottom Mount, Outer Shell Stakes			Page	1		
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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 Signal Mode - 1.0A AC/DC All Pins
 Power Mode -
 Signal Pins 2,3,4,6,7,8 & 9 at 0.5A AC/DC &
 Power Pins 1 & 5 at 1.8A AC/DC
- 4.2 Voltage rating 30V AC/DC
- 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 per applicable quality inspection plan.	Product shall meet requirements of applicable product drawing and specification.

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6.1 Electrical Performance.

Item	Test Condition	Requirement
Low-signal Level Contact Resistance	When measured at 20mV maximum open circuit at 100mA. Mated test contacts must be in a connector housing. 10mΩ maximum change for post-test LLCR. 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.	1000MΩ Min.
Dielectric Withstanding Voltage	The dielectric must withstand 100VAC for one minute at sea level. In accordance with EIA-364-20.	No breakdown.
Temperature Rise	Mate connector and measure the temperature rise of contact 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	Mate / un-mated at a rate of 12.5 mm per minute. 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	Cycle rate of 200 cycles per hour (manually) Cycle rate of 500max cycles per hour (automatically). In accordance with EIA-364-09.	10,000 cycles. Appearance: No breakdown Mating force: 35N maximum. Un-mating force: 10N minimum. 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.	Appearance: No Damage Discontinuity: 1.0μ second Max.

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Item	Test Condition	Requirement
Mechanical Shock	Mated USB connectors are subjected to 11ms duration 30Gs half-sine shock pulses. Three shocks in each direction applied along three mutually perpendicular planes for 18 shocks. In accordance with EIA-364-27. Test Condition H	Appearance: No Damage Discontinuity: 1.0 μ second Max.

6.3 Environmental Performance and Others.

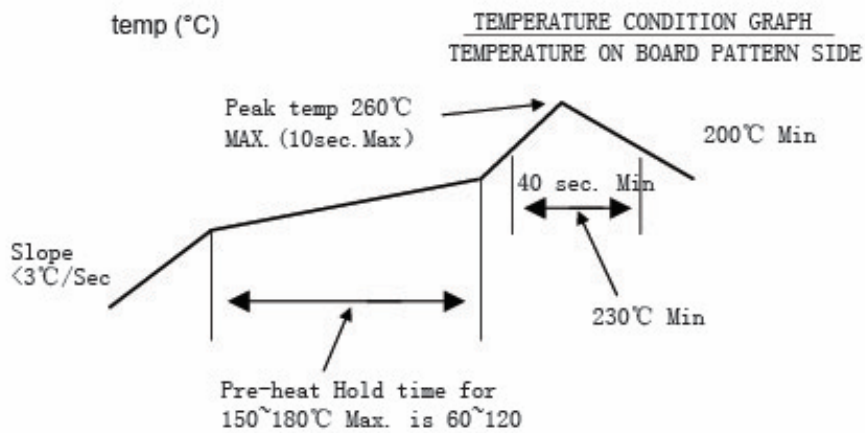
Item	Test Condition	Requirement
Thermal Shock	10 Cycles -55°C and $+85^{\circ}\text{C}$. In accordance with EIA-364-32. Test Condition I	Appearance: No Damage Contact Resistance: 10 m Ω Change allow.
Cyclic Temperature & Humidity	Cycle the connector or socket between $25^{\circ}\text{C} \pm 3^{\circ}\text{C}$ at $80\% \pm 3\%$ RH and $65^{\circ}\text{C} \pm 3^{\circ}\text{C}$ at $50\% \pm 3\%$ RH. Ramp times should be 0.5 hour and dwell times should be 1.0 hour. Dwell times start when the temperature and humidity have stabilized within the specified levels. Perform 24 such cycles. In accordance with EIA-364-31	Appearance: No Damage Contact Resistance: 10 m Ω change allowed.
Temperature Life	105°C without applied voltage for 120 hours. In accordance with EIA-364-17, method A.	Appearance: No damage Contact Resistance: 10 m Ω change allowed.
Solderability	Dip solder-tails in flux then immerse in solder bath at $255 \pm 5^{\circ}\text{C}$ up to 0.5 mm 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.
Resistance to Soldering Heat (Hand Soldering)	Solder iron method Solder temperature: $350 \pm 10^{\circ}\text{C}$ Immersion time: 3 ± 1 second. However, excessive pressure shall not be applied to the terminal.	Without deformation of case or excessive looseness of the terminals (pin.)
Resistance to Soldering Heat (Reflow Soldering) (see also 6.4)	For procedures other than specified below, refer to IEC PUB. 68-2-20. Test Tb Method 1A or 2 Solder bath method Solder temperature: $260 \pm 5^{\circ}\text{C}$ Immersion time: 10 ± 1 second Thickness of P.C.B: 0.8 mm. In accordance with EIA-364-56	Without deformation of case or excessive looseness of the terminals (pin.) (Apply to SMT parts only)

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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 or Examination	Test Group								
	1	2	3	4	5	6	7	8	9
	Test Sequence								
Examination of Product	1,3	1,1 0	1,6	1,7	1,6	1,4	1,4	1,3	1,3
Low-signal Level Contact Resistance		2,9	2,5	2,4, 6	2,9	2,5			
Dielectric Withstanding Voltage		3,8							
Temperature rise	2								
Mating / Unmating Forces		4,7							
Durability		5							
Vibration			3						
Mechanical shock			4						
Cyclic temperature & Humidity				5					
Temperature life		6							
Thermal shock				3					
Solder ability							2		
Resistance to Soldering Heat (Wave)								2	
Resistance to Soldering Heat (Hand)									2
Resistance to Soldering Heat (Reflow)							3		
Sample Size	5	5	5	5	5	5	5	5	5

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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
C	Complete Revision	All	17/09/12
D	Changed Voltage Rating from 100V AC/DC to 30V AC/DC (In line with USB-IF spec)	2	14/12/16