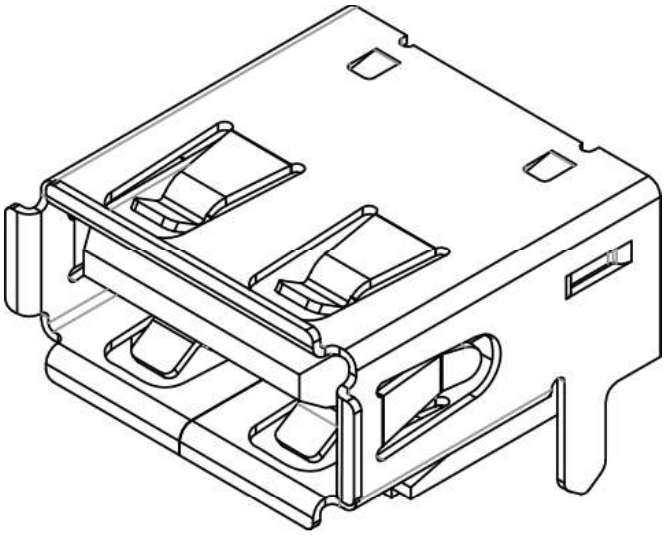
PRODUCT SPECIFICATION

Part Number	USB1046			**Rev**	A	**Date**	08/09/14
Product Description	USB Receptacle, Type A, 4 Pin, Top Mount, SMT, Horizontal, with Shell stakes					**Page**	1
Doc Number	USB1046	**Prepared**	**AO**	**Checked**	**VJ**	**Approved**	**ST**



PRODUCT SPECIFICATION

Part Number	USB1046			**Rev**	A	**Date**	08/09/14
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1.0 SCOPE.

This specification covers performance, tests and quality requirements for the USB Receptacle USB1046 (USB Receptacle, Type A, 4 Pin, Top Mount, SMT, Horizontal, with Shell stakes).

2.0 PRODUCT NAME AND PART NUMBER.

USB Receptacle, Type A, 4 Pin, SMT, Horizontal, USB1046.

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 V

4.3 Operating Temperature Range …… -40°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 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	Impressed voltage 500 VDC. Test between adjacent circuits of unmated connector. In accordance with EIA-364-21.	1000 MΩ Min.
Dielectric withstanding Voltage	500V AC for 1minute Test between adjacent circuits of unmated connector and in accordance with EIA-364-20.	No creeping discharge or flashover shall occur. Current leakage: 0.5 mA Max.

6.2 Mechanical Performance.

Item	Test Condition	Requirement
Insertion Force	Operation Speed: 12.5 mm/min. Measure the force required to mate connector and in accordance with EIA-364-13.	3.57KGf (35N) Max.
Extraction Force	Operation Speed: 12.5mm/min. Measure the force required to unmate connector and in accordance with EIA-364-13.	1.02KGf(10N) Min.
Durability	Operation Speed: 200 cycle/Hour Durability Cycles: 1500 Cycles In accordance with EIA-364-09.	Contact Resistance 30 mΩ.
Vibration	Subject mated connectors to 10-55-10 Hz traversed in 1minutes at 1.52mm amplitude 2 Hours each of 3 mutually perpendicular planes. 100mA Max. applied. In accordance with EIA-364-28D.	No electrical discontinuity greater than 1 μsec. shall occur. No damage to product.
Mechanical Shock	Accelerate Velocity: 30Gs Waveform: Half-sine shock plus Duration: 11msec Three shocks in each direction applied along three mutually perpendicular planes for a total of 18 shocks. In accordance with EIA-364-27	No electrical discontinuity greater than 1 μsec. shall occur. No damage to product.

Item	Test Condition	Requirement
Contact Retention Force	Measure the contact retention force with Tensile strength tester.	1.0 KGf Min.

6.3 Environmental Performance and Others.

Item	Test Condition	Requirement
Resistance to Wave Soldering Heat	Pre Heat: 150~180°C, 90±30sec. Heat: 230°C Min., 30±10sec. Peak Temp.: 260+0/-5°C, 20~40sec. Duration: 3 cycles	No physical damage shall occur. (Lead-Free)
Solderability	Solder pot temperature: 265±5°C, 5sec	The inspected area of each lead must have 95% solder coverage minimum.
Thermal Shock	Mated Connector -55°C and +85°C Perform this a cycle, repeat 10 cycles. In accordance with EIA-364-32.	Contact Resistance 30 mΩ.
Humidity-Temperature Cycle	Mated Connector 40°C, 90~95% RH, 168hours. In accordance with EIA-364-31.	Contact Resistance 30 mΩ.
Salt Spray	Subject mated connectors to 35+/-2°C and 5+/-1% salt condition for 8hours. After test, rinse the sample with water and recondition the room temperature for 1 hour. In accordance with EIA-364-26.	No detrimental corrosion allowed in contact area and base metal exposed.
Resistance to Reflow Soldering Heat	Mount Connector, place in reflow oven and expose to the temperature profiles shown in fig 1 and 2.	No evidence of physical damage or abnormalities adversely affecting performance.

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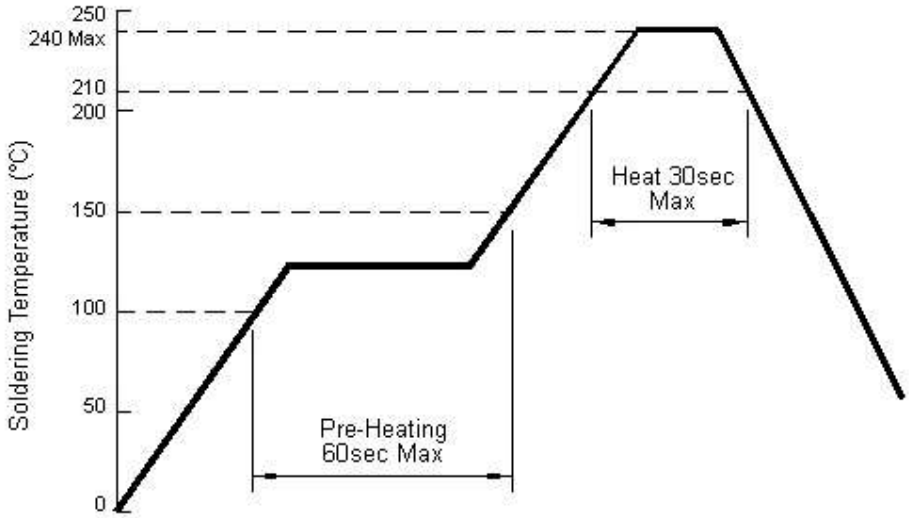


Fig 1 – Temperature profile of Reflow Soldering at 250°C Max.

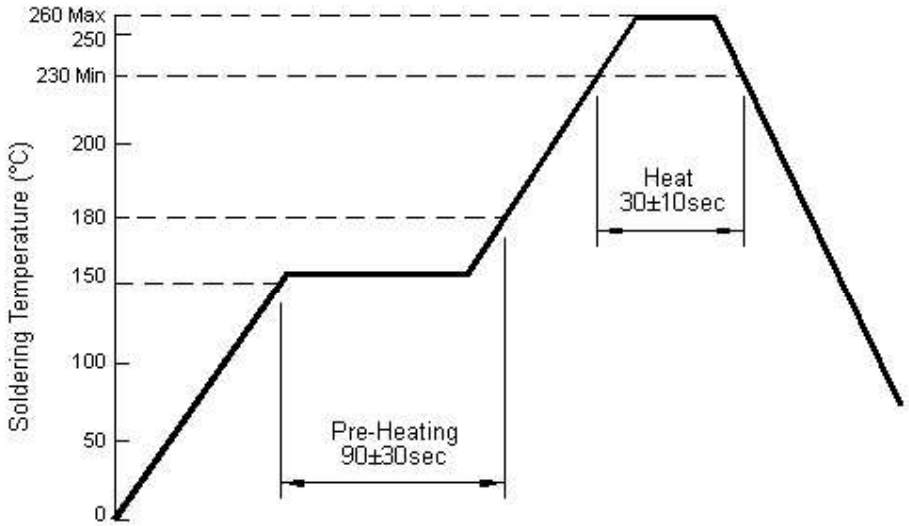


Fig 2 – Temperature profile of Reflow Soldering at 260°C Max.

7.0 PRODUCT QUALIFICATION AND TEST SEQUENCE

Test Item	Test Group							
	A	B	C	D	E	F	G	H
Examination of Product	1, 9	1, 9	1, 4	1, 5	1, 5	1, 3	1, 3	1
Contact Resistance	4, 8	3, 7		2, 4	2, 4			
Dielectric Withstanding Voltage	3, 7							
Insulation Resistance	2, 6							
Mating Force		2, 6						
Unmating Force		4, 8						
Durability		5						
Vibration			2					
Mechanical Shock			3					
Contact Retention Force								2
Solderability							2	
Resistance to Soldering Heat						2		
Thermal Shock				3				
Humidity Temperature Cycling	5							
Salt Spray					3			

Notes: Numbers indicate sequence in which tests are performed. Discontinuities shall not take place in this test group, during tests.

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BF121-18-A-0-L-C BF135-18-A-0200-0700-0400-L-C USB4510-03-1-A