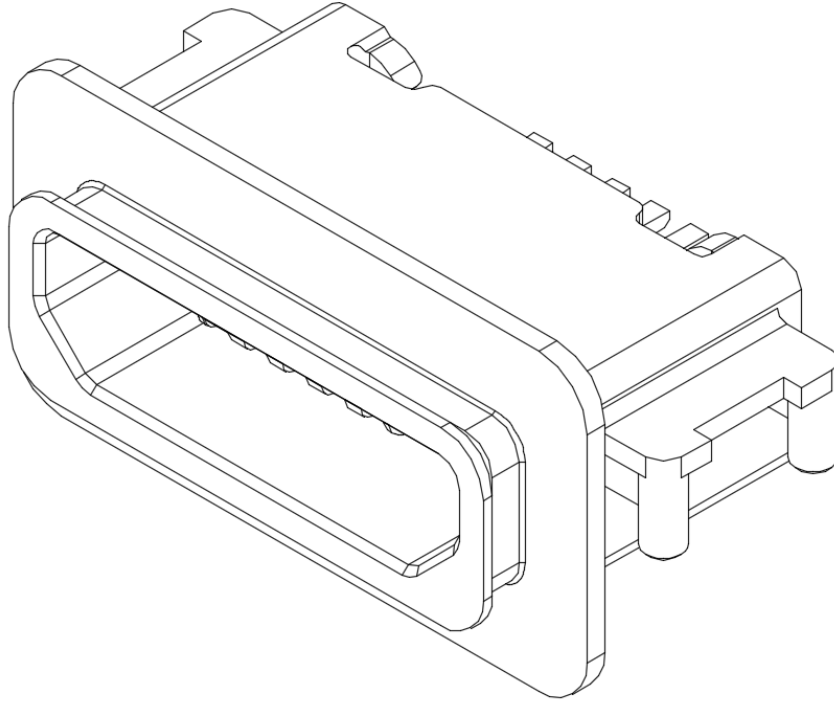


# PRODUCT SPECIFICATION

<b>Part Number</b>	USB3500	<b>Rev</b>	A1	<b>Date</b>	05/06/19		
<b>Product Description</b>	Micro USB Receptacle, Type B, Mid-Mount, IP67			<b>Page</b>	1		
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## 1.0 SCOPE.

This specification covers performance, tests and quality requirements for the Micro USB Receptacle USB3500 (Type B, Mid-Mount, IP67).

## 2.0 PRODUCT NAME AND PART NUMBER.

Micro USB Receptacle, Type B, Mid-Mount,IP67: USB3500.

## 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 ..... 30V AC

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 inspection as per quality plan.	Product shall meet requirements of product drawing and specification.

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## 6.1 Electrical Performance.

Item	Test Condition	Requirement
Contact Resistance	When measured at 20mV maximum open circuit at 100mA. Mated test contacts must be in a connector housing In accordance with EIA-364-23.	30 mΩ Max.
Insulation Resistance	Mate/Un-mate connectors, apply 100V DC for 1 minute at sea level between adjacent terminal or ground. In accordance with EIA-364-21.	1000 MΩ Min.
Dielectric Withstanding Voltage	Mate/Un-mate connectors, apply 100V AC for 1 minute at sea level. In accordance with EIA-364-20.	No Breakdown.

## 6.2 Mechanical Performance.

Item	Test Condition	Requirement
Mating/Un-mating Force	Mate/Un-mated at a rate of 12.5mm/min. In accordance with EIA-364-13.	Mating force: 35N Max. Un-Mating force: 8N Min. to 25N Max.
Durability	10,000 cycles at a cycle rate of 500 cycles per hour if done automatically and 200 if manual cycles. In accordance with EIA-364-09.	Appearance: No Damage. Mating force: 35N Max. Un-Mating force: 8N Min. to 25N Max Contact Resistance: 40mΩ Max.
Vibration	Mate connectors and subject to 5.35 Gs RMS. For a period of 15 minutes in each of the 3 mutually perpendicular axes. In accordance with EIA-364-28 Test condition V test letter A.	Appearance: No Damage. Contact Resistance: 40 mΩ Max. Discontinuity: 1.0 μ second Max.
Mechanical Shock	Mate connectors and subject to the following shock conditions, 3 shocks shall be applied along 3 mutually perpendicular axis (Total of 18 shocks). Test Pulse at Half Sine Peak Value: 294 m/s <sup>2</sup> (30G) Duration: 11ms. In accordance with EIA-364-27. Test condition H.	Appearance: No Damage. Contact Resistance: 40 mΩ Max. Discontinuity: 1.0 μ second Max.

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## 6.3 Environmental Performance and Others.

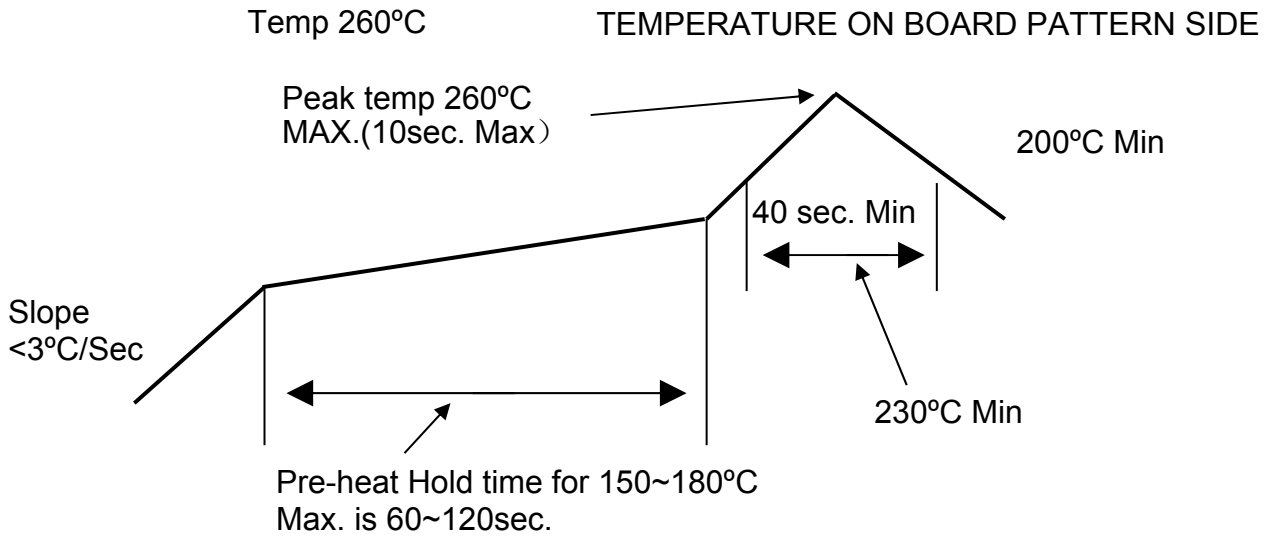
Item	Test Condition	Requirement
Humidity Test	Subject mated connectors to Duration: 168 hours temperature between +25°C to +65°C with 90 to 95% RH. In accordance with EIA-364-31. Test condition A method III	Appearance: No Damage. Contact Resistance: 40 mΩ Max. Insulation Resistance: 100 MΩ Min. Dielectric Strength: No Breakdown.
Salt Spray	Subject mated/unmated connectors to 5% salt-solution concentration, 35°C for 48 hours. In accordance with EIA-364-26, Test Condition B.	Contact Resistance: 40mΩ Max. No visible rust on contact area
Temperature Life	Subject mated connectors to temperature life at +85°C for 500hours. In accordance with EIA-364-17. Test condition 4 Method A.	Appearance: No Damage. Contact Resistance: 40 mΩ Max.
Temperature Rise	Mate connector and measure the temperature rise of contact when the maximum rated current is passed and in accordance with EIA-364-70.	+30°C Max. Change allowed.
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 Contact Resistance: 40 mΩ Max. Insulation Resistance: 100 MΩ Min. Dielectric Strength: No Breakdown.
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 for 4~5 seconds. In accordance with EIA-364-52, category 2.	95% of immersed area must show no voids, pin holes.
Resistance to Soldering Heat (Reflow Soldering)	Sample mounted on PCB and subject to solder bath method, Temperature:260°C for 10±1 sec In accordance with EIA-364-56.	Without deformation of shell or excessive looseness of the terminals (pin.)
Resistance to Soldering Heat (Hand Soldering)	Sample mounted on PCB and subject to hand iron soldering, Temperature:350±10°C for 3±1 sec	Without deformation of shell or excessive looseness of the terminals (pin.)
Waterproof Test	Immerse the sample that be mounted in the specified enclosure in water as following conditions: Water depth:1m,Time:30 minutes In accordance with IEC60529:2013	No leakage, water seepage, no obvious water mark in the test fixture.
Dust-tight Test	Put sample in a closed chamber with suspended talcum powder as following conditions: Pump speed:40-60 times of the shell volume per hour Amount of talcum powder:2kg/m <sup>3</sup> Time:2 hours In accordance with IEC60529:2013	No ingress of dust

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## 7.0 RESISTANCE TO INFRARED REFLOW SOLDERING HEAT

7.1 Lead Free Process: Reflow soldering cycles limited to one time.



## 8.0 PRODUCT QUALIFICATION AND TEST SEQUENCE

Test Item	Test Group									
	1	2	3	4	5	6	7	8	9	10
Examination of Product	1,9	1,8	1,5	1,5	1,3	1,3	1,3	1,3	1,3	1,3
Contact Resistance	3,7		2,4	2,4						
Insulation Resistance		2,6								
Dielectric Withstanding Voltage		3,7								
Mating / Unmating Forces	2,8									
Durability	4									
Vibration	6									
Mechanical Shock	5									
Humidity		5								
Salt Spray			3							
Temp Life				3						
Temp Rise					2					
Thermal Shock		4								
Solderability						2				
Resistance to Wave Soldering Heat							2			
Resistance to Hand Soldering Heat								2		
Waterproof Test									2	
Dust-tight Test										2

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## Revision details :-

Revision	Information	Page	Release Date
A	Specification released.	-	14/01/19
A1	Change reflow soldering cycles from two times to one time	5	05/06/19