

SPECIFICATION AND PERFORMANCE

Series	115S-BS00	File	115S-BS00_SPEC_2	Date	2021/04/21
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Scope:

This specification covers the requirements for product performance, test methods and quality assurance provisions of below

P/ N	Description
115S-BS00	Nano SIM Socket, Dual Card Tray Eject Type, 30u"
115S-BT02	Nano SIM Tray, Dual Card, SUS316, Natural color, 16.9mm, Reel, with card clip

Performance and Descriptions:

The product is designed to meet the electrical, mechanical and environmental performance requirements specification. Unless otherwise specified, all tests are performed at ambient environmental conditions.

RoHS:

All material in according with the RoHS environment related substances list controlled.

MATERIALS

NO.	PART NAME	DESCRIPTION
1	INSULATOR	LCP E471i, UL94V-0, Black
2	CONTACT	Phosphor Bronze C7025-TM03 0.15t, contact area: 30u" Gold plating, solder area: Gold flash, under plating 50u" MIN. Nickel
3	SHELL	Stainless Steel SUS304 0.2t, solder area: Gold flash, under plating 12u" MIN. Nickel
4	PUSH BAR	Stainless Steel SUS304 0.25t
5	CAM	Stainless Steel SUS304 0.4t

RATING

Current Rating	0.5A max.
Voltage Rating	10VAC/DC
Operating Temperature	-40°C to +105°C
Storage Temperature	-40°C to +105°C
Durability	2,000 cycles



ELECTRICAL		
Item	Requirement	Test Condition
Contact Resistance	Initial: 50 mΩ (Max) After test: 30 mΩ Max change	Solder connectors on PCB and mate them together, measure by applying closed circuit current of 10mA maximum at open circuit voltage of 20mV (max). (Per EIA-364-23)
Insulation Resistance	Initial: 1,000 MΩ (Min).	Apply 500V DC between adjacent contacts, or contact and ground. (Per EIA-364-21)
Dielectric Withstanding Voltage	No breakdown	500V AC (rms.) between two adjacent for 1 minute. (Trip current: 1mA) (Per EIA-364-20)

MECHANICAL		
Item	Requirement	Test Condition
Tray Insertion Force	10 N Max. (1.0Kgf Max)	Push the Tray at the speed rate of 25±3 mm / minute.
Removal Force	3N Min. (0.3Kgf Min)	Push the Tray at the speed rate of 25±3 mm / minute.
Eject-Bar Push Force	4N~ 15N (0.4 Kgf~ 1.5 Kgf)	Push the Tray at the speed rate of 25±3 mm / minute.
Contact Normal Force	0.20N Min./PIN (0.02kgf Min)	Measure contact normal force at the speed rate of 25±3 mm / minute. (Nano SIM card 0.60t)
Durability	Contact Resistance: 30mΩ(Max) change No Damage.	Insertion and extraction are repeated 2,000 cycles (Tray) at the speed rate of 4 - 10 cycles / minute by hand.

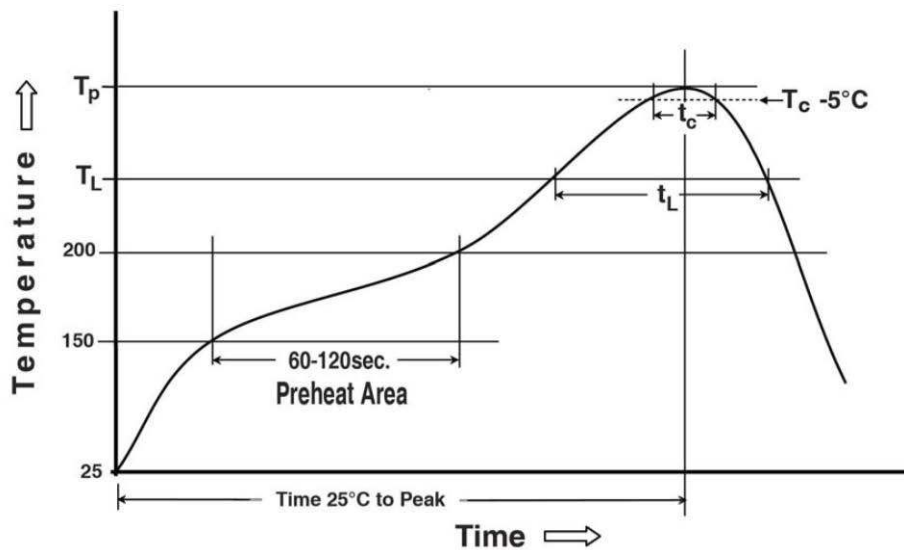
ENVIRONMENTAL		
Item	Requirement	Test Condition
Vibration	Finish 1. No electrical discontinuity more than 1μs. 2. No Damage 3. Contact Resistance: 30mΩ change max.	Mate card and subjected to the Following vibration conditions, for a Period of 2 hours in each of 3 mutually perpendicular axes, with Passing DC 1mA during the test. Amplitude: 1.52mm P-P or 19.6m/s ² { 2G} Frequency: 10-55-10Hz Shall be traversed in 1 minute. (Per EIA-364-28)

Mechanical Shock	Finish: 1. No electrical discontinuity more than 1 μ s. 2. No Damage 3. Contact Resistance: 30m Ω (Max) change	Mate card and subjected to the following shock conditions. 3 Mutually perpendicular axis, passing DC 1mA current during the test. (Total of 18 shocks) Test pulse: Half Sine Peak value: 490m/s ² { 50G} Duration: 11ms (Per EIA-364-27)		
Thermal Shock	1 Contact Resistance: 30m Ω (Max) change 2 Insulation Resistance: 100M Ω (Min)	Stage	Temp. ($^{\circ}$ C)	Time (Minute)
		t1	-40	30
		t2	-40~ 105	3
		t3	105	30
		t4	105~ -40	3
Test time: 5 cycles (EIA-364-32D)				
High Temperature Life	1 Contact Resistance: 30m Ω (Max) change 2 Insulation Resistance: 100M Ω (Min)	Temperature: 105 \pm 2 $^{\circ}$ C Test time: 96hour (EIA-364-17B)		
Cold Resistance	1 Contact Resistance: 30m Ω (Max) change 2 Insulation Resistance: 100M Ω (Min)	Temperature: -40 \pm 2 $^{\circ}$ C Test time: 96hours (Per EIA-364-59A)		
Humidity	1 Contact Resistance: 30m Ω (Max) change 2 Insulation Resistance: 100M Ω (Min)	There shall be no any excessive corrosion on the every part of connector. Temperature: 40 \pm 2 $^{\circ}$ C Humidity: 90~ 95% RH Test time: 120hours (EIA-364-31A)		
Salt spray	Finish: 1. No Damage 2. Contact Resistance: 30m Ω (Max) change	5 \pm 1% salt solutions, at 35 \pm 2 $^{\circ}$ C duration 24 hours. Connectors detached (EIA-364-26A)		



SOLDER ABILITY		
Item	Requirement	Test Condition
Solder ability	95% of immersed area must show no voids , pin holes.	The termination should be 95% covered with new continuous solder coating Solder temperature: $245 \pm 5^{\circ}\text{C}$ Test time: 3 ± 0.5 seconds (Per EIA-364-71)
Resistance to soldering heat	No melting, cracks or functional damage allowed	When exposed to the following re-flow soldering condition, there shall be no any excessive thermal damage on the every part of connector.

Reflow Profile



Preheating temperature: 150 ~ 200°C, 60~ 120 seconds

Liquidus temperature (TL): 217°C, 60~ 150 seconds

Peak temperature: 260°C

Time within 5 °C of peak temperature (Tc): 255°C, 30seconds

Table: Products Qualification Test Sequence

No.	Test item	Test Group and Sequence										
		A	B	C	D	E	F	G	H	I	J	K
1	Contact Resistance	1,7	1,3	1,3		1,4	1,4	1,4	1,4		1,3	
2	Insulation Resistance					2,5	2,5	2,5	2,5			
3	Dielectric Withstanding Voltage	2										
4	Tray Insertion Force	3										
5	Removal Force	6										
6	Eject Bar Push Force	4										
7	Contact Normal Force				1							
8	Durability	5										
9	Vibration		2									
10	Mechanical Shock			2								
11	Thermal Shock					3						
12	High Temperature Life						3					
13	Cold Resistance							3				
14	Humidity								3			
15	Solder Ability									1		
16	Salt Spray										2	
17	Resistance to Soldering Heat											1
Sample Quantity		4	4	4	4	4	4	4	4	4	4	4