

SPECIFICATION AND PERFORMANCE

Series	115Q-BCA0	File	115Q-BCA0_SPEC_2	Date	2021/01/21
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Scope:

This specification covers the requirements for product performance, test methods and quality assurance provisions of 115Q-BCA0

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	HOUSING	LCP E130i, UL94V-0, Black
2	CONTACT	C5210R-H, 0.12t, 5u" min gold on contact area, 1u" min gold on tail area, under plated: 50u" min nickel
3	SPRING	SWP-B, 0.20d, 65u" min nickel Plating over all
4	CRANK	SUS304, 0.35d
5	SHELL	SUS304CSP-3/4H, 0.15t, 50u" min nickel plated
6	SLIDER	LCP E130i, UL94V-0, Black

RATING

Rated Voltage	10V DC/AC
Rated Current	0.5A DC/AC
Operating Temperature	-40~+85°C
Storage Temperature	-40~+85°C
Durability	5000 CYCLES

ELECTRICAL

Item	Requirement	Test Condition
Contact Resistance (Low level)	Contact terminals: 100mΩ max. Switch terminals: 140mΩ max.	Subject mated contacts assembled in housing to 20mV max., Open circuit at 10mA. Refer to Figure 1
Insulation Resistance	1000MΩ min. initial 100MΩ min. after test	Impressed voltage 500V DC for 1 minute. Test between adjacent circuit EIA364-21
Dielectric Withstanding	No creeping discharge nor	500V AC for 1 minute. Test between adjacent

Voltage	flash over shall occur. Current leakage: 1mA max.	circuit. EIA364-20
Temperature Rise	30°C max. under loaded rating current	The contacts shall be wired in series and apply rated current. Measure the temperature rising on contact.

MECHANICAL		
Item	Requirement	Test Condition
Durability	Max. change from initial contact resistance 40mΩ max. no physical damage to connector shall occur	Cycle rate: 400 to 600 cycles per hour No. of cycle: 5,000 cycles. EIA 364-09
Insertion Force	1.0kgf (10N)Max	Measure the module card insertion force at 25± 3mm/min. EIA364-13
Withdrawal Force	0.05kgf (0.5N) Min.	Measure the mated module card extraction force from the socket at 25±3mm/min. EIA364-13
Mechanical Shock	Max. Change from initial contact Resistance 40 mΩ Max no electrical discontinuity greater than 100nsec. shall occur	Accelerated Velocity: 50 G (490 m/sec ²) Waveform: Semi Sine Duration: 11 m sec. No of Shocks: 6/dir., 3 axis,(total of 18 Shocks), EIA364-27
Vibration	Max. Change from initial contact Resistance 40 mΩ Max no electrical discontinuity greater than 100nsec. shall occur	Frequency Range: 10-55-10 Total Amplitude: 1.52 mm p-p or 9.81m/sec ² . Duration: 2 hours tree axes(6 hours in total) EIA364-28

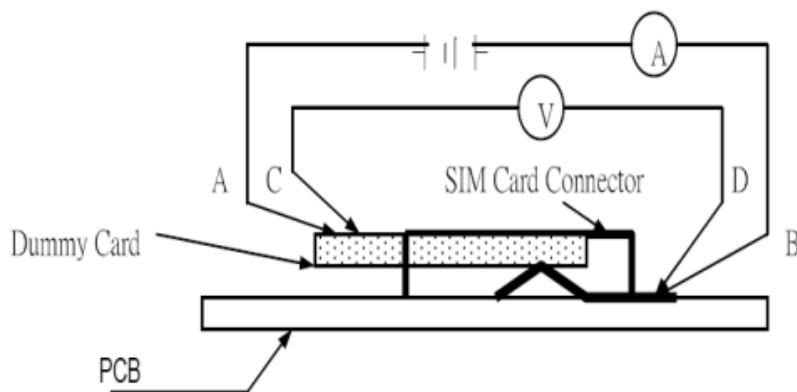
ENVIRONMENTAL		
Item	Requirement	Test Condition
Humidity-Thermal Cycling	Max. Change from initial contact Resistance 40 mΩ Max Insulation Resistance: 1000 MΩ Min. initial 100 MΩ Min. after test No physical damage to connector shall occur.	Ambient Temp.: 25 to 60°C Relative humidity: 90 to 95 % Duration: 10 cycles EIA364-31
Thermal Shock	Max. Change from initial contact Resistance 40 mΩ Max No physical damage to connector shall occur.	Temperature Range: -55 to 85°C No. of Cycles: 5 cycles for 30 minutes EIA364-32
Temperature Life	Max. Change from initial	Chamber Temperature: 85±2°C

	contact Resistance 40 mΩ Max No physical damage to connector shall occur.	Duration: 250 hours EIA364-17
Low Temperature Resistance	Max. Change from initial contact Resistance 40 mΩ Max No physical damage to connector shall occur.	Chamber Temperature: - 40±2°C Duration: 96 hours Dummy card engaged during test EIA364-59
Salt Spray Test	Max. Change from initial contact Resistance 40 mΩ Max No physical damage to connector shall occur.	Salt Solution: 5±1.0% Length of Test: 48 hours Dummy card engaged during test EIA364-26

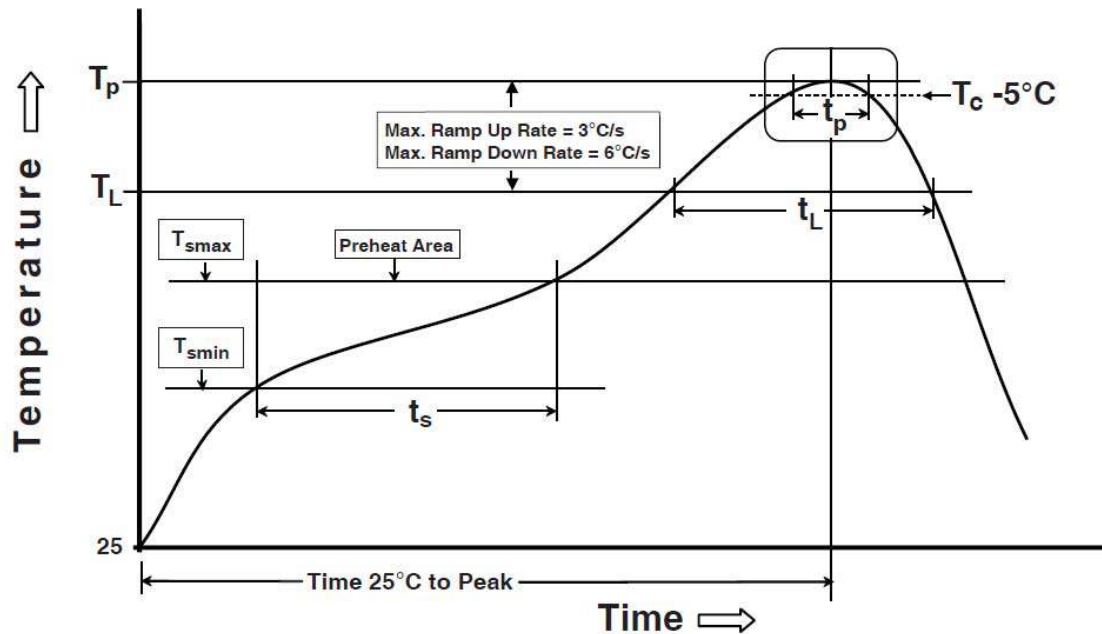
SOLDER ABILITY

Item	Requirement	Test Condition
Solder ability	Wet Solder Coverage: 95% Min.	Solder Temperature: 245±3°C Immersion Duration: 3 ± 0.5 sec. Solder: Sn-3Ag-0.5Cu Flux: RMA 25%
Solder-Heat Resistance	No evidence of deformation or fusion of housing and no physical damage after test.	Refer to Reflow Profile

FIGURE I: CONTACT RESISTANCE



Reflow Profile



Preheating temperature: 150 ~ 200°C, 60~ 120 seconds
 Liquidus temperature (T_L): 217°C, 60~ 150 seconds
 Peak temperature: 260°C
 Time within 5 °C of peak temperature (T_c): 255°C, 30seconds