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SPECIFICATION AND PERFORMANCE

Series	209E-BE01	File	209E-BE01_SPEC_1	Date	2024/06/20

Scope:

This specification covers the requirements for product performance, test methods and quality assurance provisions of **209E-BE01**

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 UL94V-0 Black
2	CONTACT	Phosphor bronze , Contact area: 15u" gold plating, Solder area: 100u" min. Tin plating, Under plated: 50u" min. Nickel plating over all
3	SHELL	Stainless steel, Nickel plating

RATING	
Current Rating	1.8A for Vconn & GND, 0.25A for other pin
Operating Temperature	-20°C to +85°C
Storage Temperature	-20°C to +85°C
Durability	10,000 cycles

ELECTRICAL		
Item	**Requirement**	**Test Condition**
Contact Resistance	Initial 30mΩ Max. for VBUS and GND, 50mΩ for all other pin. After test Δ10mΩ Max.	Mate connectors, measure by dry circuit 20mV Max., 100mA Max. (EIA 364-23)
Dielectric Withstanding Voltage	100 VAC No flashover and breakdown	The object of this test procedure is to detail a test method to prove that a USB connector can operate safely at its rated voltage and withstand momentary over-potentials due to switching, surges, and/or other similar phenomena. (EIA 364-20)

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Insulation Resistance	100 MΩ (Min).	The object of this test procedure is to detail a standard method to assess the insulation resistance of USB connectors. This test procedure is used to determine the resistance offered by the insulation materials and the various seals of a connector to a DC potential tending to produce a leakage of current through or on the surface of these members. (EIA 364-21)

MECHANICAL		
Item	**Requirement**	**Test Condition**
Mating force	35N (3.57kgf) Max.	Operation Speed： 12.5 ± 3 mm/minute Measure the force required to mate/unmate connector. (EIA-364-13)
Unmating force	10N (1.02kgf) Min.	Operation Speed： 12.5 ± 3 mm/minute Measure the force required to mate/unmate connector. (EIA-364-13)
Durability	No damage	Mate and unmate connector assemblies for 10,000 cycles at maximum rate of 200 cycles per hour. (EIA 364-09)
Vibration	No damage Discontinuity: <1us	Subject mated connectors to 10~55~10Hz traversed in 1 minute at 1.52mm amplitude 2 hours each of 3 mutually perpendicular planes (EIA 364-28)

ENVIRONMENTAL		
Item	**Requirement**	**Test Condition**
Thermal shock test	No Damage	Sample condition: mated -20°C, -15 minutes, +85°C, 15 minutes, 10 cycles. (EIA 364-32)
Temperature Life	No damage	Sample condition: mated Temperature: 105°C Duration: 120 hours

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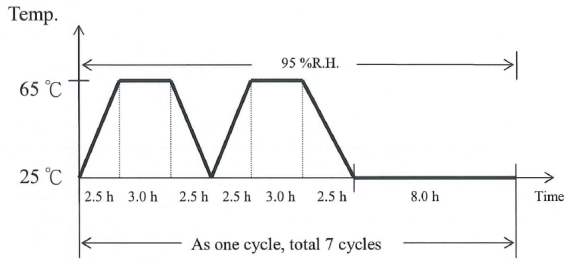
Humidity	No damage	Sample condition: mated  (EIA 364-31)
Salt mist test	No Damage	8 hours exposure to a salt spray from the 5% solution at 35 ± 2°C (MIL-STD-1344)

SOLDER ABILITY		
Item	**Requirement**	**Test Condition**
Solder ability	95% area coverage min.	Pre-condition: 8 hours steam aging Solder bath temperature: 255°C Speed: 25 mm/s Dip time: 5 seconds Solder: Sn/3.0Ag/0.5Cu Flux: RMA Type Method: DIP
Resistance to soldering heat	No melting, cracks or functional damage allowed	Preheating temperature: 80°C, 60 seconds Temperature: 260°C Immersion duration: 10 sec