1. Scope

This specification covers the performance, tests and quality requirements for the Blade battery connector

Applicable Product Models:FBA20010 series.

2. Applicable documents

The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, the latest edition of the document applies. In the event of conflict between the requirements of this specification and the product drawing, the product drawing shall take precedence. In the event of conflict between the requirements of this specification and the referenced documents, this specification shall take precedence.

3. Ordering information

Refer to the drawing.

4. Connector dimensions

Refer to the drawing.

5. Material

Housing： Thermoplastic (UL94V-0)

Terminal: Copper Alloy

Plating:Gold plated

6. Rating

Operating voltage(Max.):30V AC

Current rating(Max.) :5A allowable current to be applied

Temperature range-operating: -40°C -- +105°C

7. Performance

Serial Number	Test item	Procedure	Requirement
1	Examination Of Product	Visual inspection. (EIA-364-18)	Meets requirements of product Drawing. No physical damage.

ELECTRICAL REQUIREMENT

2	Contact Resistance	Subject mated contacts assembled housing to 20 mV maximum 100 mA .Measured from plug side to PCB side. (EIA-364-23)	Inital value:30mΩ MAX. After environmental tests:40mΩ MAX
3	Insulation Resistance	Mated connectors with 500±10% VDC between adjacent contacts or ground. (EIA-364-21)	Minimum initial resistance: 100 MΩ
4	Dielectric withstanding Voltage	Mate applicable female header, apply 500V AC for 1 minute between adjacent terminal or ground. (EIA-364-20)	No Breakdown

MECHANICAL REQUIREMENT

5	Mating and Un-mating Force	Mating connectors at maximum rate 25.4millimeters/minute and measure the Insertion and Extraction force . (EIA -364-13D)	Insertion Force：≤0.04kgf per pin Withdrawal Force：≥ 0.03kgf per pin
6	Terminal/ Housing Retention Force	Pull out the terminal from the housing at speed 25±3mm per minute.	0.30kg MINIMUM

ENVIRONMENT PERFORMANCE AND OTHERS

7	Heat Resistance	Mate The sample connectors shall expose to 105±5 °C for 96 hours. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room condition for 1to2 hours, after which the specified measurements shall be performed. (EIA-364-17)	Appearance: Nodamage
			Contact Resistance: 40mΩ Max.
8	Cold Resistance	Mate The sample connectors shall expose to-40±5°C for 96 hours. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room condition for 1to2 hours, after which the specified measurements shall be performed. (EIA-364-17)	Appearance: Nodamage
			Contact Resistance: 40mΩ Max.
9	Humidity	Mate The sample connectors shall expose to -40±2°C relative humidity 90~95% for 96 hours. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room condition for 1to2 hours, after which the specified measurements shall be performed.	Contact Resistance: 40mΩ Max.
			Dielectric StrengthL:No Breakdown
			Appearance: Nodamage
			Insulation Resistance:100MΩ Min.
10	Test Method	Mate the connectors properly. Perform thermal cycling between -40℃ and 85℃, with an exposure time of 30 minutes per cycle and 5 cycles total. Allow a transition time of 3 minutes between temperature changes. After completion, recover the test specimens at ambient	Appearance: Nodamage

		temperature for 2 hours, then conduct an electrical performance inspection. (IEC60603-7)	Contact Resistance: 40mΩ Max.
11	Salt Spray	Salt Mist Concentration: 5%±2; pH Value: 6.5~7.2; Spray Rate: 1.0~2.0 (ml/80 cm²/h); Relative Humidity (RH): ≥85%; Test Duration: 48 hours. (EIA-364-26B)	Appearance: Nodamage
			Contact Resistance: 40mΩ Max.
12	Solder ability	Dip terminal and pin into the molten solder (held at 250±5°C) up to 1.6mm from the standard surface for 5±0.5 seconds.	Solder Wetting: 85% of immersed area must show no voids , pin holes
13	Resistance to Soldering Heat	Dip terminal and pin into the molten solder (held at 255±5°C) up to 1.6mm from the standard surface for 5±0.5 seconds.	Appearance: Nodamage
14	Product temperature	The product into the oven(temperature 260±5°C)time to 10±1 seconds.	Appearance: Nodamage