1. Scope

This specification covers the performance, tests and quality requirements for the pitch 0.5mm board to board connectors.

Applicable Product Models:FBB05017 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. Accommodated P.C.B layout

Refer to the drawing.

7. Rating

Operating voltage(Max.):60V DC

Current rating(Max.) :0.5A allowable current to be applied

Temperature range-operating: -55°C -- +125°C

8. Performance

Serial Number	Test item	Procedure	Requirement
1	Examination Of Product	Visual inspection.	Meets requirements of product Drawing. No physical damage.

ELECTRICAL REQUIREMENT

2	Contact Resistance	Mate The sample connectors, measure by dry circuit, 20mV Max., 100mA Max. (EIA-364-23)	80mΩ Max.
3	Insulation Resistance	Impressed Voltage 500V AC Test between adjacent circuits of unmated connectors. (EIA-364-21)	500 MΩ min. Initial
4	Dielectric withstanding Voltage	Unmated The sample connectors, Apply 150 V AC for 1minute Test between adjacent circuit of unmated connector. (EIA-364-20)	No Breakdown
			Current leakage: 1 mA max.

MECHANICAL REQUIREMENT

5	Contact Retention Force	Load shall be applied on each at a speed of 25± 3mm/minute as shown below then pin retention force shall be measured.	0.01Kgf/Pin Min.
6	Mating and Unmating force	Mate The sample connectors shall be soldered on a board and inserted and separated at speed of 25± 3mm/min. (EIA-364-13)	0.78N maximum. per pin 0.058N minimum. per pin
7	Durability	Mate Thesample connectors should be mounted in the testerand fullymated andunmated the number of	Appearance: Nodamage

		50cycles specified at the rate of 25±3 mm/min. (EIA-364-09)	Contact Resistance: 80mΩ Max.
8	Vibration	Mate connectors and subject to the following vibration conditions for period of 2 hours in each of 3 mutually perpendicular axes passing DC 1mA during the test. Amplitude:1.5mm P-P frequency:10~55~10 Hz in 1 minute	Appearance: Nodamage
			Contact Resistance: 80mΩ Max.
			Discontinuity :1μ sec Max.
9	Shock (Mechanical)	Mate Thesample connectors shall and subject to the following shock condition.3 times of shocks shall be applied for each 6 directions along 3 mutually perpendicular axes, passing DC 1mA current during the test.(Total of 18 shocks) Peak value490m/s2{50G}	Appearance: Nodamage
			Contact Resistance: 80mΩ Max.
			Discontinuity :1 μ sec Max.

ENVIRONMENT PERFORMANCE AND OTHERS

10	Temperature Rising	Mate The sample connectors and measure the temperature rise of contact when the maximum AC rated current is passed. (EIA-364-70 METHOD 2)	30°C Max. Under loaded rating current
11	Heat Resistance	Mate The sample connectors shall expose to 125± 2 °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.	Appearance: Nodamage
			Contact Resistance: 80mΩ Max.

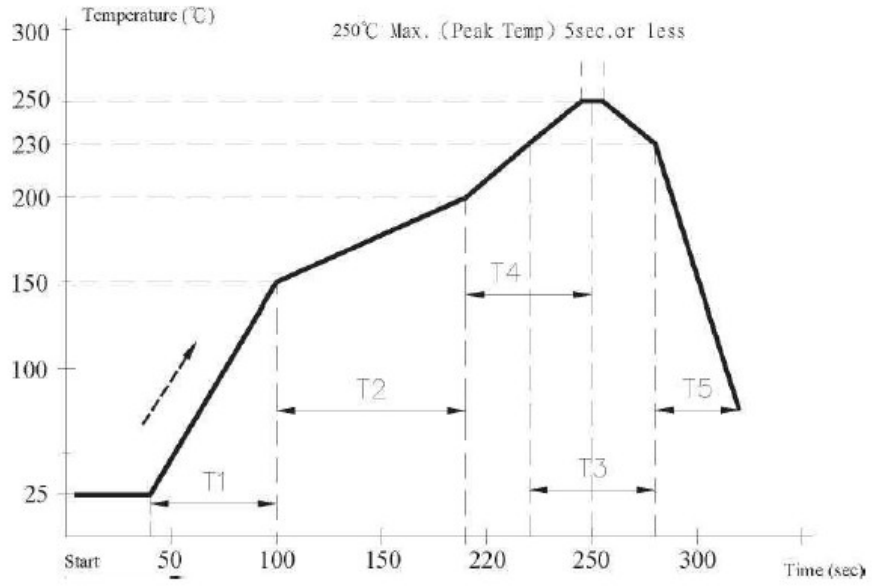
12	Cold Resistance	Mate The sample connectors shall expose to-55±2°C for 96 hours. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room condition for 1to2 hours, after which the specified measurements shall be performed.	Appearance: Nodamage
			Contact Resistance：80mΩ Max.
13	Humidity	Mate The sample connectors shall expose to -55±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：80mΩ Max.
			Dielectric StrengthL:No Breakdown
			Appearance: Nodamage
			Insulation Resistance:60MΩ Min.
14	Temperature Cycling	A connector shall and subject to the following condition for 5 cycles .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. 1cycle -55±3°C,30 minutes +125±3°C,30 minutes (Transit time shall be with in 3 minutes) (EIA-364-31, Test condition A)	Contact Resistance：80mΩ Max.
			Appearance: Nodamage

15	Salt Spray	Mate The sample connectors shall expose to the following salt mist conditions. Upon completion of the exposure period, salt deposits shall be removed by a gentle wash or dip in running water, after which the specified NaCl solution Concentration:5 +1% Spray time:24hours Ambient temperature:35±2°C (EIA-364-26,Test condition B)	Appearance: Nodamage
16	Solder ability	Tip of solder tails and fitting mails into the molten solder (held at 250±5°C) up to 0.1mm from the Housing for 3±0.5sec onds. (EIA-364-52)	Solder Wetting： 95% of immersed area must show no voids, pin holes.
17	Resistance to Reflow Soldering Heat	Soldering iron method 0.2 mm from terminal tip and fitting nail tip.Soldering time:5 seconds Max. Soldering temperature:370~400°C	Appearance: No damage

Figure 1

NOTE: Shall meet visual requirements, show no physical damage, and meet requirement of additional tests as specified in the test sequence in Figures 2

9. The reflow temperature curve



T1	Temperature Ramp Up Rate	2°C∽5°C/Sec
T2	Preheat:150°C∽200°C	60~90Sec
T3	Time Over 230°C	30~50Sec
T4	Preheat:200°C ∽250°C	30Sec
T5	Ramp Down Rate During Cooling	7°C/Sec
	Peak Temperature	250°C Max

NOTE:Please check the reflow soldering condition by your own devices beforehand. Because the condition changes by the soldering devices, P.C.Boarde and so on.

10. Product qualification and reliability test sequence

Test or Examination	Test Group											
	A	B	C	D	E	F	G	H	I	J	K	L
Appearance	1;7	1;3	1;6	1;6	1;6	1;3	1;6	1;6	1;5	1;5	1;3	1;3
Contact Resistance			2;5	2;5	2;5		2;5	2;5	2;4	2;4		
Dielectric Withstanding Voltage	3;6											
Insulation Resistance	2;5											
Insertion Force		2										
Contact Retention Force			3;4									
Vibration				3;4								
Shock Mechanical					3;4							
Temperature Rising						2						
Heat Resistance							3;4					
Cold Resistance								3;4				
Humidity	4											
Temperature Cycling									3			
Salt Spray										3		
Solder ability											2	
Resistance to Soldering Heat												2

Figure 2

NOTE: (a) Numbers indicate sequence in which tests are performed.

(b) Discontinuities shall not take place in this test group, during test