1. **Scope**

Board to board Connector pitch 0.8mm series.

This specification covers the performance, tests and quality requirements for the pitch 0.8mm board to board FBB08004 series.

2. **Ordering information**

Refer to the drawing.

3. **Connector dimensions**

Refer to the drawing.

4. **Material**

Housing: LCP (UL 94V-0)

Color: Natural

Terminal: Phosphor bronze

Plating: Selective gold in contact area, tin on tail

5. **Accommodated P.C.B layout**

Refer to the drawing.

6. **Rating**

Operating voltage(Max.)	225V DC
Current rating(Max.)	2A (One pin power per row); Ground: 16A (One pin power per row)
Temperature range-operating	-55°C -- +85°C (Including terminal temperature rise)

7. **Performance**

Test item	Requirement		Procedure
Electrical Performance			
Contact Resistance	15mΩ Max		Subject mated contacts assembled in housing to closed circuit of 15mA max. at open circuit voltage of 20mV max. (EIA-364-23)
Insulation Resistance	5000MΩ Min		Impressed Voltage 675V DC Test between adjacent circuits of unmated connectors. (EIA-364-21)
Dielectric Strength	No Breakdown. Current leakage: 1 mA Max.		Unmated The sample connectors, Apply 675V AC for 1minute Test between adjacent circuit of unmated connector. (EIA-364-20)
Mechanical Performance			
Terminal Retention Force	0.01kgf/Min. Circuit		Load shall be applied on each at a speed of 25±3mm/minute as shown below then pin retention force shall be measured.
Insertion Force	0.125kgfxN Max. (N=Circuits)		Mate The sample connectors shall be soldered on a board and inserted and separated at speed of 25±3mm/min. (EIA-364-13)
Durability	Appearance	No Damage	Mate The sample connectors should be mounted in the tester and fully mated and unmated the number of 50 cycles specified at the rate of 25±3 mm/min. (EIA-364-09)
	Contact Resistance	90mΩ Max	

Test item	Requirement		Procedure
Vibration	Appearance	No Damage	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 (EIA-364-28 Condition I)
	Contact Resistance	90mΩ Max	
	Discontinuity	1μsec Max	
Shock	Appearance	No Damage	Mate The sample 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 value 490m/s^2{50G} (EIA-364-27, test condition A)
	Contact Resistance	90mΩ Max	
	Discontinuity	1μsec Max	

Environmental Performance and others

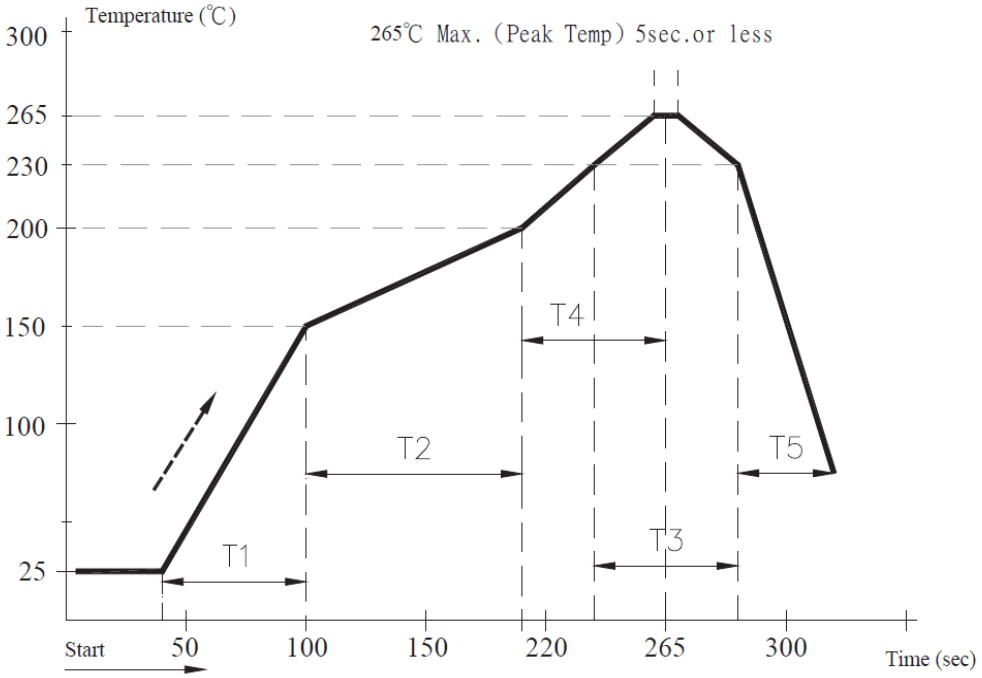
Temperature Rising	30°C Max. Under loaded rating current		Mate The sample connectors and measure the temperature rise of contact when the maximum AC rated current is passed. (EIA-364-70 METHOD 2)
Heat Resistance	Appearance	No Damage	Mate The sample connectors shall expose to 85 ± 2°C for 96 hours. Upon completion of the exposure period, the test specimens shall be conditioned at ambient room condition for 1 to 2 hours, after which the specified measurements shall be performed.
	Contact Resistance	90mΩ Max	
Cold Resistance	Appearance	No Damage	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 1 to 2 hours, after which the specified measurements shall be performed.
	Contact Resistance	90mΩ Max	
Humidity	Appearance	No Damage	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 1 to 2 hours, after which the specified measurements shall be performed.
	Contact Resistance	90mΩ Max	
	Dielectric Strength	No Breakdown	
	Insulation Resistance	500MΩ Min.	
Temperature Cycling	Appearance	No Damage	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 1 to 2 hours, after which the specified measurements shall be performed. 1cycle a)-55±3°C,30 minutes b) +85±3°C,30 minutes (Transit time shall be with in 3 minutes) (EIA-364-31, Test condition A)
	Contact Resistance	90mΩ Max	

Test item	Requirement		Procedure
Salt Spray	Appearance	No Damage	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: 24 hours Ambient temperature: 35±2°C (EIA-364-26,Test condition B)
Solderability	Solder Wetting	95% of immersed area must show no voids, pin holes.	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)
Resistance to Soldering Heat	Appearance	No Damage	When reflowing….Refer to Paragraph 8. Soldering iron method 0.2 mm from terminal tip and fitting nail tip. Soldering time:5 seconds Max. Soldering temperature: 370~400°C

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.

8. **Infrared reflow condition (Lead Free)**



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	4°C--7°C/Sec
	Peak temperature	265°C Max.

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

9. **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.