1. Scope

This product specification contains the test method, the general performance and property for pitch 0.8mm board to board connectors.

Product series No.: FBB08010 series.

2. General items

● 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.

● EIA-364 : The test sequence and test procedures for electrical connectors and sockets.

● Product shall be of the design, construction and physical dimensions specified in the applicable product drawing.

3. Ordering information

Refer to the drawing.

4. Connector dimensions

Refer to the drawing.

5. Material

Housing: Thermoplastic (UL 94V-0)

Color: Black

Terminal: Copper alloy

Plating: Gold plated

6. Accommodated P.C.B layout

Refer to the drawing.

7. Rating

Operating voltage (Max.)	50V AC / DC
Current rating (Max.)	0.5A
Temperature range-operating	-40°C -- +105°C

8. Test Condition

All tests shall be performed as bellow conditions unless otherwise specified.

Temperature range	+15°C -- +35°C
Humidity range	25% to 85% R.H.
Transmission rate	10 GHz

9. Performance

Test item	Requirement		Procedure
Electrical Performance			
Low Level Contact Resistance	Initial & After testing: Signal: 100 mΩ Max.		With regard to measurement, conductor resistance down to the soldered parts of the terminals are Included. Voltage: 20mV max. Current: 1mA (EIA- 364-23)
Insulation Resistance	Initial & After testing: Signal Contact: 500 MΩ Min.		Impressed Voltage 250 V DC Test between adjacent circuits of unmated connectors. (EIA 364-21C)
Dielectric Withstanding Voltage	Without damage such as arcing or breakdown etc.		Unmated the connectors, Apply 250 V AC for 1 minute Test between adjacent circuit of unmated connector. (EIA 364-20C, Method B)
Mechanical Performance			
Total Insertion Force	Insertion fore	Total 40N Max.	Push the actually card at the speed rate of 25 ± 3 mm/min.
Total Pulling Force	Pulling Force	Total 4N Min.	Pull the actually card at a speed of approximately 25 ± 3 mm/minute.
Durability	Insertion and withdrawal.		Insertion and extraction are repeated 30 cycles with the actually card at the speed rate of 25 ± 3 mm/min. (EIA-364-09C)
	Contact Resistance	100 mΩ Max.	
	No damage, crack and looseness of parts.		
Contact and Post Retention Force	0.5N Min.		Apply force on the contact alone the direction opposite to the contact insertion at a speed of 25 ± 3 mm/min. Measure the force when the contact dislodges the connector.
Mechanical Shock	Appearance	No abnormality	Mate dummy card and place them on the shock machine, then apply the following shock. Then it shall be measured. Max.G: 490 m/s² Standard duration: 11 ms. Wave form: Half sinusoidal Test times: 3 times for 3 both axial directions (EIA-364-27B, Method 213B, Condition A)
	Contact Resistance	100 mΩ Max.	
	Insulation Resistance	500 MΩ Min.	
	Dielectric Withstanding Voltage	250V AC r.m.s	
	Discontinuity Greater	1μs Max.	

Test item	Requirement		Procedure
Vibration	Appearance	No abnormality	Frequency: 10-55-10 Hz / 5min. Direction :Three mutually perpendicular directions. Total Amplitude: 1.5mm. Sweep duration: 10 cycles for 3 axial directions. (EIA-364-28E test Method 201A)
	Contact Resistance	100 mΩ Max.	
	Insulation Resistance	500 MΩ Min.	
	Dielectric Withstanding Voltage	250V AC r.m.s	
	Discontinuity Greater	1μs Max.	

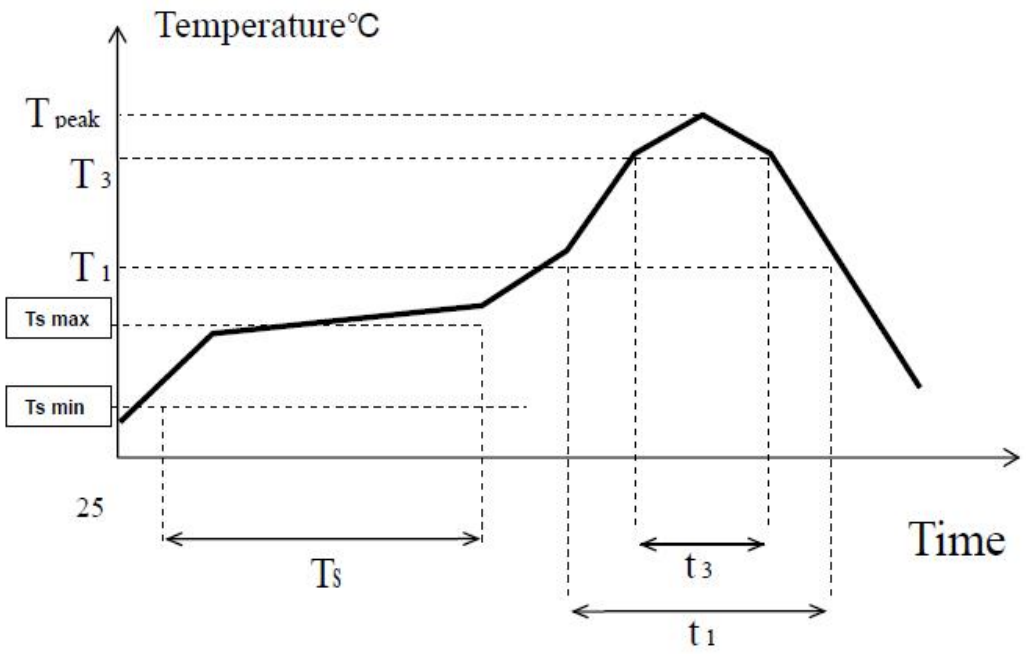
Environmental Performance and others

High Temperature Test	Contact Resistance	100 mΩ Max.	Mate dummy card and expose them to the following environment in accordance. Temperature :105 ± 2°C Duration :96 hours (MiL-STD-202F Method 108A, Condition C)
	No physical damage must occur during the testing.		
Low Temperature Storage Test	Contact Resistance	100 mΩ Max.	Mate dummy card and expose them to the following environment. Temperature: -40 ± 3°C Duration: 96 hours (EIA-364-59A)
	No physical damage must occur during the testing.		
Humidity Test (Steady State)	Appearance	No abnormality	Mate dummy card and expose them to the following environment in accordance. Temperature: 40 ± 2°C Humidity: 90 - 95% R.H. Duration: 240 hours (EIA-364-31B Method 103E, Condition C)
	Contact Resistance	100 mΩ Max.	
	Insulation Resistance	500 MΩ Min.	
	Dielectric Withstanding Voltage	250V AC r.m.s	
Humidity Test (Cycling)	Appearance	No abnormality	Mate dummy card and expose them to the following environment in accordance. Temperature: 25°C - 65°C Humidity: 90 - 98% R.H. Duration: 5 cycles, 240 hours (EIA-364-31B Method 103E, Condition C)
	Contact Resistance	100 mΩ Max.	
	Insulation Resistance	500 MΩ Min.	
	Dielectric Withstanding Voltage	250V AC r.m.s	
Salt Water Spray	Appearance	No abnormality	Mate dummy card and expose them to the following environment in accordance Temperature: 35°C ± 2°C Percentage humidity: 5 ± 1% Duration: 48 hours. (EIA-364-26B with Method 101D, Condition B)
	Contact Resistance	100 mΩ Max.	

Test item	Requirement		Procedure
Solderability	More then 95% of the Dipped surface shall be wet and less than 5% of the pinhole that shall not gather at a point.		Contact shall be immersed in solder photo with the condition as below. Solder temperature: 245 ± 5°C. Immersing time: 3 ~ 5 sec. (EIA-364-52)
Resistance to Soldering Heat	Appearance	No abnormality	1. Reflow part 260 +0/-5 °C. Peak Above 220 °C time about 60 sec. 2. Pre-heat part 170 °C, 90~120 sec. * Refer to reflow temperature profile. * The number of reflow is within 2 times. 3. Soldering irons: 360 °C Max. 5 sec.
	Adversely affecting the performance shall not occur.		
NOTE: Shall meet visual requirements show no physical damages.			

10. Reflow Profile for soldering heat resistance testing

Parameter	Mark	Major parts
Speed of temperature-raising		Not raise over 3 °C for each second
Temperature Min (Ts min) Temperature Max (Ts max) Time (ts min to ts max)	Ts min Ts max Ts	170 °C 190 °C 1~3 minutes
Time of temperature over 220℃	t 1	60~150 seconds
At the reflow area	t 3 T3	10 seconds (t 3) 260 °C Max. (255 °C Min.)
At the highest temperature	T peak	See Table： 260 +0/-5 °C
Speed of temperature-decreasing		Not decrease over 6 °C for each second
Time from 25 °C to highest temperature		Not over 8 minutes



SMT type Re-flow profile for soldering heat (Lead free)

11. Product qualification and reliability test sequence

Sample QTY (Min.)	5	5	5	5	5	5	5	5	5	5	5	5	5	
Test Item	Test Group													
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
Appearance	1,3	1,3	1,5	1,3	1,9	1,6	1	1	1,9	1,9	1,5	1,3	1,3	
Contact Resistance			2,4		2,6	2,7	2,4	2,4	2,6	2,6	2,4			
Insulation Resistance					3,7	3,8			3,7	3,7				
Dielectric Withstanding Voltage					4,8	4,9			4,8	4,8				
Total Insert Force	2													
Total Pulling Force		2												
Durability			3											
Contact and Post Retention Force				2										
Mechanical Shock					5									
Vibration Test						5								
High Temperature Storage Test							3							
Low Temperature Storage Test								3						
Humidity test (Steady State)									5					
Humidity test (cycling)										5				
Salt Water Spray											3			
Solderability												2		
Resistance to Soldering Heat													2	