

1. Scope

Board to board Connector pitch 0.5mm series
This specification covers the Board to board connector pitch 0.5mm series

2. Ordering information

Refer to the drawing.

3. Connector dimensions

Refer to the drawing.

4. Material

Housing: Heat resistant polymer (UL 94V-0)
Color :Refer to the drawing
Terminal: Phosphor bronze
Plating:Gold plated

5. Accommodated P.C.B layout

Refer to the drawing.

6. Rating

Operating voltage(Max.) 50V DC
Current rating(Max.) 0.5A Max. (Each Circuit)
Temperature range-operating -25°C -- +85°C(Including terminal temperature rise)

7. Performance

Electrical Performance

Contact Resistance	40mΩ Max	Mate The sample connectors, measure by dry circuit, 20mV Max., 100mA Max. (EIA-364-23)
Insulation Resistance	100MΩ Min	Unmated The sample connectors, apply 500V DC between adjacent terminal or ground. (EIA-364-21)
Dielectric Strength	No Breakdown. Current leakage: 1 mA Max.	Unmated The sample connectors, Apply 250V AC for 1minute. Test between adjacent circuit of unmated connector. (EIA-364-20)

Mechanical Performance

Terminal Retention Force	0.03Kgf/Circuit (0.294N) Min.	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	0.12Kgf×N 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)

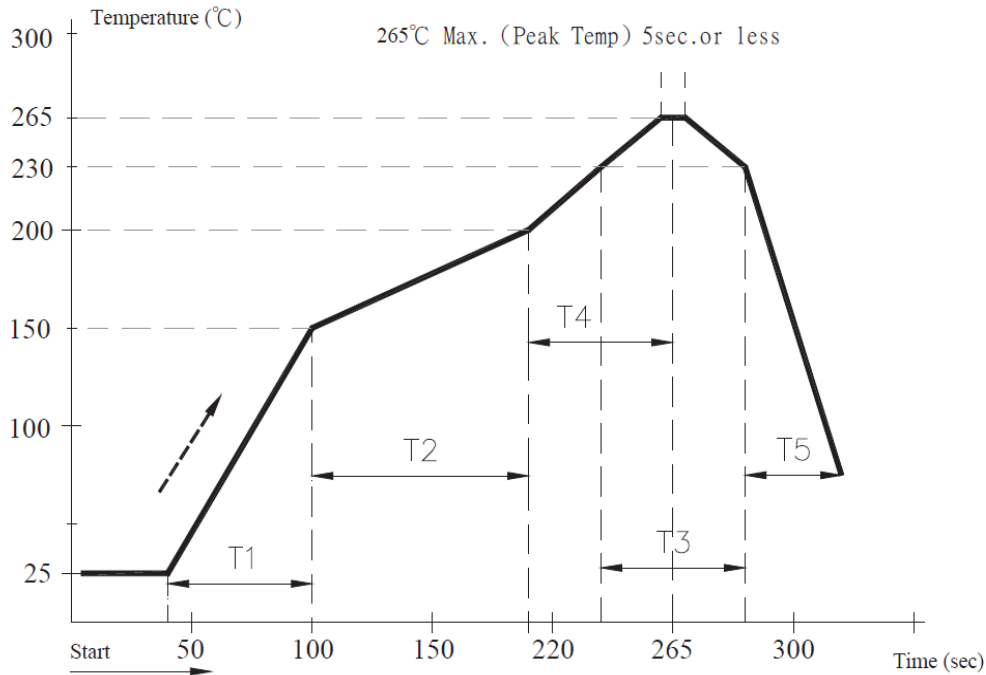
Environmental Performance and others

Durability	Mate The sample connectors should be mounted in the tester and fully mated and unmated the number of 30cycles specified at the rate of 25±3 mm/min. (EIA-364-09)	Appearance	No Damage
		Contact Resistance	90mΩ Max

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 (EIA-364-28 Condition I)	Appearance	No Damage
		Contact Resistance	90mΩ Max
		Discontinuity	1μsec Max
Shock	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 value490m/s ² {50G} (EIA-364-27, test condition A)	Appearance	No Damage
		Contact Resistance	90mΩ Max
		Discontinuity	1μsec Max
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	
Heat Resistance	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.	Appearance	No Damage
		Contact Resistance	90mΩ Max
Cold Resistance	Mate The sample connectors shall expose to -25±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.	Appearance	No Damage
		Contact Resistance	90mΩ Max
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 1 to 2 hours, after which the specified measurements shall be performed.	Appearance	No Damage
		Contact Resistance	90mΩ Max
		Dielectric strength	No Breakdown
		Insulation Resistance	500MΩ Min
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 a)-25±3°C,30 minutes b) +85±3°C,30 minutes (Transit time shall be with in 3 minutes) (EIA-364-31, Test condition A)	Appearance	No Damage
		Contact Resistance	90mΩ Max

Salt Spray	<p>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)</p>	Appearance	No Damage
Solderability	<p>Tip of solder tails and fitting mails into the molten solder (held at 265±5°C) up to 0.1mm from the Housing for 3±0.5sec onds. (EIA-364-52)</p>	Solder Wetting	95% of immersed area must show no voids ,pin holes
Resistance to Soldering Heat	<p>Soldering iron method 0.2 mm from terminal tip and fitting nail tip. Soldering time:5 seconds Max. Soldering temperature:370~400°C</p>	Appearance	No Damage

8. Infrared reflow condition



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.

Temperature condition graph

Temperature on board pattern side

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