

Products pecification

1. Scope

This specification applies to the 0.5mm pitch FPC/FFC series connectors,specifying the product's performance indicators,test methods and testrequirements. (Applicable Product Model:FFC05049 series)

2. Connector Dimensions

Refer to the drawing.

3. Materials and Plating

- A. Housing : Thermoplastic Without Halogen, UL94V-0,Color: Nature;
- B. Cover : Thermoplastic Without Halogen, UL94V-0,Color: Black;
- C. Contact : Copper Alloy, Gold or Tin plating over Nickel under plating Overall.

4. Applicable P.C.B. Layout

Refer to the drawing

5. Rating

Operating Voltage: 50V AC/DC

Current Rating: 0.5A AC/DC

Operating Temperature: -25℃~+85℃ (Including Terminal Temperature Rise)

6 TEST CONDITION

The test and measurement, unless otherwise specified, shall be carryout at a temperature of 15 to 35℃, Relative humidity of 25 to 85%,and atmospheric pressure of 86 to 106KPa. However, when any doubt arises on the judgment value under it, the test and measurement shall be carry out at a temperature of 20±2℃, relative humidity of 60 to 70%, and atmospheric pressure of 86 to 106KPa.

7. Performance

Test Item	Requirement	Test Condition
Examination of Product	Meets requirements of Product drawing, No Breakdown	Visual inspection.

Electrical Performance

Contact resistance	30mΩ Max.	Mate applicable FPC and measure by dry circuit 20mV Max, 10mA
Insulation resistance	500mΩ Min.	[500]VAC for 1 minute Test between adjacent circuits of unmated connector.
Withstanding Voltage	No breakdown, flashover, or arcing	[250]VAC for 1 minute Test between adjacent circuits of unmated connector.

Mechanical Performance

Contact Retention Force	0.250kgf Min.		Apply axial pull out force at the rate of [25.4±3]mm/min on the terminal assembled in the housing.
Actuator Retention Force	Operation Speed:[25.4±3]mm/min Measure the force required to mated connector.		0.200kgf/Pin Max.
FPC/FFC Retention Force	Operation Speed:[25.4±3]mm/min Measure the force required to unmated connector.		0.030kgf/Pin Min.(PIN>= 17) 0.500kgf Min.(PIN<17)
Durability	Appearance	No damage	Operation Speed: (10) cycle-max./min Durability Cycles: 20 Cycles
	Contact resistance	60mΩ Max.	
Vibration	Appearance	No damage	Amplitude: 1.52mm Frequency: 10~55~10HZ 2 hours in X,Y,Z directions, total 6 cycles
	Contact resistance	60mΩ Max.	
	Discontinuity	1μs Max	
Mechanical Shock	Appearance	No damage	The connectors shall be soldered on the P.C. board. /Acceleration: 50G. Time: 11ms.(half sine wave). Cycle: 3 cycle for 3 axis total 9 cycle.
	Contact resistance	60mΩ Max.	
	Discontinuity	1μs Max	
Temperature Rising	Contact Resistance	30mΩ Max.	Mate applicable FPC and measure the temperature rise of contact when the maximum AC mated current is.

Test Item	Requirement	Test Condition
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Environmental & Other Performance

Thermal shock	Contact Resistance	60mΩ Max.	Mated connectors, 5 cycles: -55℃ for 30 min → +85℃ for 30 min
Humidity-Temperature Cycle	Appearance	No damage	40 ± 2 °C in temperature and 90~95%RH for 96 hours. After testing connector shall be left alone for 1 to 2 hours in a room ambient.
Temperature life	Contact Resistance	60mΩ Max.	Mated connectors, 85℃ for 250 hours
Salt Spray	Appearance	No damage	Mated connectors, 35±2℃, 5±1% NaCl, 24 hours (or as customer required)
	Contact Resistance	60mΩ Max.	

8. Test Sequence

Test Item	Test Group									
	1	2	3	4	5	6	7	8	9	10
	Test Sequence									
Examination of Product	1, 7	1, 9	1, 6	1, 5	1, 5	1, 5	1, 5	1, 3	1, 3	1, 3
Contact resistance		2, 8	2, 5	2, 4	2, 4	2, 4	2, 4			
Withstanding Voltage	3, 6									
Insulation resistance	2, 5									
Contact/ Peg Retention Force		3, 7								
FPC/FFC Retention Force		4, 6								
Durability		5								
Vibration			3							
Mechanical Shock			4							
Temperature Rising								2		
Thermal Shock				3						
Humidity Temperature Cycling	4				3					
Temperature Life						3				
Salt Spray Cycling							3			