

1. Scope

FPC Connector pitch 1mm series
 This specification covers the FFC10054 series

2. Ordering information

Refer to the drawing.

3. Connector dimensions

Refer to the drawing.

4. Material

Housing: LCP (UL 94V-0)
 Color :Natural ;Flammability rating (UL 94V-0)
 Actuator: LCP (UL 94V-0)
 Color: Black;Flammability rating (UL 94V-0)
 Contacts terminal: Phosphor bronze
 Plating: Tin plated
 Stopper: Copper alloy
 Plating: Tin plated

5. Accommodated P.C.B layout

Refer to the drawing.

6. Rating

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

7. Performance

Test item	Requirement	Test Condition
Electrical Performance		
Contact Resistance	40mΩ Max.	A maximum voltage of 20mV and a maximum current of 10mA are applied to the Mate FPC connector. (EIA-364-23)
Current Continuity	No discontinuity current is longer than 1 micro second.	Each circuit of the connector shall be connected in series continuity meter shall detect current discontinuity longer than 1 microsecond during the vibration test.
Insulation Resistance	500 MΩ Min.	Apply 500V D/C to any two adjacent contacts to measure the insulation resistance. (EIA-364-21)

FPC connector pitch 1mm series

Test item	Requirement	Test Condition
Withstanding Voltage	No breakdown and flashover	Apply 250V A/C (rms) for 1 minute to the adjacent terminal and ground of the Mate connectors. (EIA-364-20)

Mechanical Performance

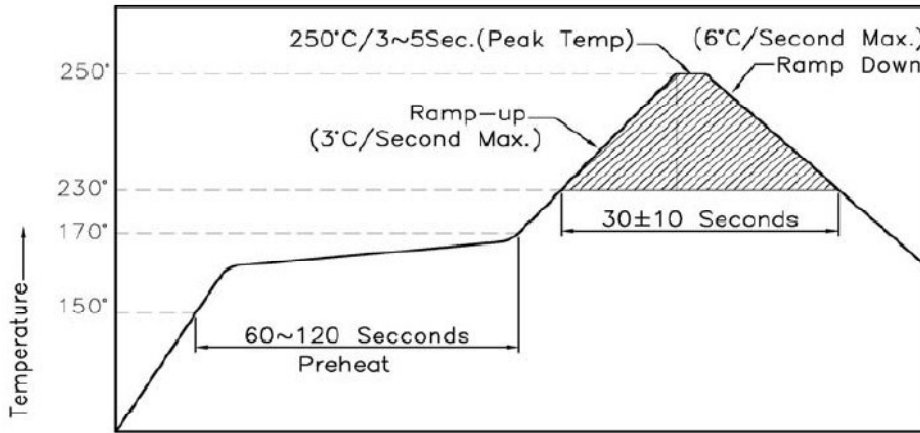
FFC/FPC Cable Retention Force	0.015kgf/Circuit (Min)	Insert the actuator pull the FFP/FPC cable at the speed rate of 25± 6mm/minute.
Pin Retention Force (in Housing)	0.08kgf/Circuit (Min)	Axial pullout force on the pin in the housing at the speed rate of 25 ± 6 mm per minute.

Environmental Performance and others

Vibration	Initial Contact Resistance	40mΩ Max.	A mated FFC/FPC connector shall be mounted on a printed Circuit board and subjected to a vibration test of the following conditions. During the test, test current continuity shall be checked. After the test, contact resistance shall be measured. (EIA-364-28A-23) Frequency: 10~55~10 Hz/minute. Amplitude: 1.5 mm P-P Direction:1. Axis of up and down. 2. Axis of right the left. 3. Axis of front and back. Period: 2 hours for each direction.
	(After the test) Contact Resistance	60mΩ Max.	
Thermal Aging	Initial Contact Resistance	40mΩ Max.	A mated FFC/FPC connector shall be placed in a heat oven of the following conditions. After the test, contact resistance shall be measured. (EIA-364-17) Temperature: 85±2℃. Period: 96 hours continuously
	(After the test) Contact Resistance	60mΩ Max.	
Humidity	Appearance	No Damage	A mated FFC/FPC connector shall be placed in a humidity chamber of the following conditions. After the test, the contact resistance, the insulation resistance and the dielectric withstanding voltage shall be measured. (EIA-364-31) Temperature: 40±2℃. Relative Humidity: 90%~95% (RH). Period: 96 hours continuously
	(After the test) Contact Resistance	60mΩ Max.	
	(After the test) Insulation Resistance	20MΩ Min.	
	(After the test) Withstanding Voltage	No breakdown or flashover	

Test item	Requirement		Test Condition
Thermal Shock	Appearance	No Damage	A mated FFC/FPC connector shall be subjected to a thermal shock test of the following conditions. After the test, the contact resistance, the insulation resistance and the dielectric withstanding voltage shall be measured. (EIA-364-32) One Cycle Consists Of: -55+0/-3°C for 30 minutes. → Room Temp. 5 minutes 85+3/-0°C for 30 minutes. → Room Temp. 5 minutes Total Cycles: 25 Cycles.
	(After the test) Contact Resistance	60mΩ Max.	
	(After the test) Insulation Resistance	20MΩ Min.	
	(After the test) Withstanding Voltage	No breakdown or flashover	
Salt Spray	Initial Contact Resistance	40mΩ Max.	A mated FFC/FPC connector shall be subjected to a Salt Spray test of the following conditions. After the test, the specimen shall be washed with running water and dried naturally before the measurement of contact resistance. (EIA-364-26) Density: 5 % in weight. Temperature: 35±2°C. Period: 12 hours
	(After the test) Contact Resistance	60mΩ Max.	
Hydrogen Sulfide GAS	Initial Contact Resistance	40mΩ Max.	A mated FFC/FPC connector shall be subjected to hydrogen sulfide gas of the following conditions. After the test, contact resistance shall be measured. Density: 3±1ppm. Temperature: 40±2°C. Relative Humidity: 75%(RH). Period: 96 hours continuously
	(After the test) Contact Resistance	60mΩ Max.	
Solderability	Solder entirely 95% of immersed area must show no voids or pinholes.		Fluxed soldering section of header shall be dipped in solder of the following conditions. (EIA-364-52) Solder Temperature: 245 ± 5°C. Immersion Period: 3±0.5 Seconds Method: 0.1mm From Terminal Tip and Solder Tab Tip
Resistance to soldering heat	Appearance	No deformation or damage.	By soldering iron: 330~350 ± 5°C 3±0.5 Seconds. Method: 0.2 mm From Terminal Tip and Solder Tab Tip

8. Reference infrared reflow condition



Time →

Temperature Profile