Products pecification

1. Scope

This specification applies to the 1.0mm pitch FPC/FFC series connectors,specifying the product's performance indicators,test methods and testrequirements.（Applicable Product Model:FFC10071 series）

2. Connector Dimensions

Refer to the drawing.

3. Materials and Plating

A. Housing ： Thermoplastic Halogen-free, UL94V-0,Color: Nature;
B.Cover ： Thermoplastic Halogen-free, UL94V-0,Color: Black;
C.Contact ： Phosphor Bronze, Gold or Tin plating over Nickel under plating overall.
D.Peg ： Phosphor Bronze, Tin Plating over Nickel under plating overall.

4. Applicable P.C.B. Layout

Refer to the drawing

5. Rating

Operating Voltage：50V AC
Current Rating：0.5A DC
Operating Temperature：-40℃～+105℃（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	30 mΩ Max.	Mate applicable FPC and measure by dry circuit 20mV Max,10mA
Insulation resistance	100 MΩ Min.	[500]VAC for 1 minute Test between adjacent circuits of unmated connector.
Withstanding Voltage	No breakdown, flashover, or arcing	[500]VAC for 1 minute Test between adjacent circuits of unmated connector.

Mechanical Performance

Contact/Peg Retention Force	0.10kgf Min.		Apply axial pull out force at the rate of [25.4±3]mm/min on the terminal assembled in the housing.
FPC/FFC Housing Retention Force	0.03kgf/Pin Min.		Operation Speed:[25.4±3]mm/min Measure the force required to unmated connector.
Durability	Appearance	No damage	Operation Speed: (10) cycle-max./min Durability Cycles：30 Cycles
	Contact resistance	30mΩ Max.	
Vibration	Appearance	No damage	Amplitude：1.52m; Frequency; 10~55~10HZ; Vibration time:2 hours for 3 axis total 6 hours.
	Contact resistance	30mΩ 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	30mΩ Max.	
	Discontinuity	1μs Max	
Temperature Rising	Temperaturerise	30°C max	Mate applicable FPC and measure the temperature rise of contact when the maximum AC mated current is.
Solder ability	⩾95% solder coverage, no voids, cold joints, etc.		Dwell time：3±0.5 seconds Solder temperature：245±5℃

Environmental & Other Performance

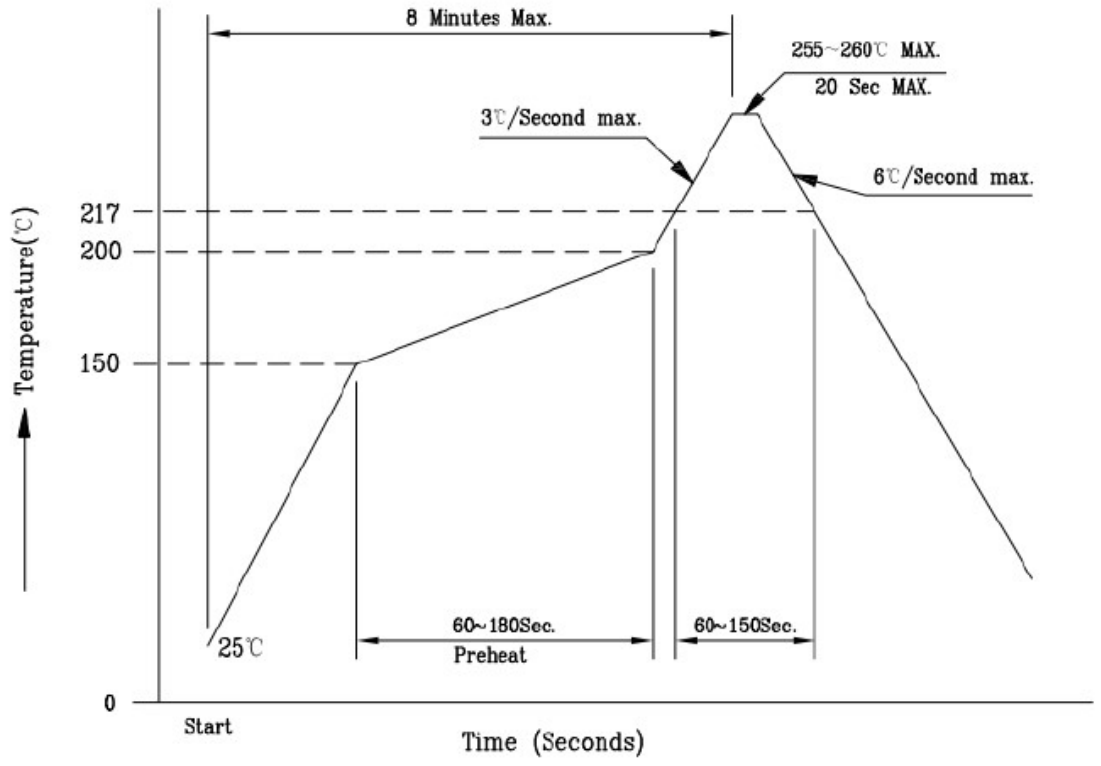
Resistance to Reflow Soldering Heat	Appearance	No damage	Pre Heat:150~180℃,90±30sec. Heat：230℃ Min.,30±10sec Peak Temp.:260+0/-5℃, 10sec. Or less Duration：3 cycles Refer to Fig.2
Thermal shock	Contact Resistance	30mΩ Max.	Temperature range form -55℃ to +85℃ .Start from -55 ℃,after 30 min. Change to +85;℃chang time is no more than 30 seconds. Total 5 cycles.
Humidity-Temp erature Cycle	Appearance	No damage	40 ± 2 ℃ 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	30mΩ Max.	Mated connectors, 85℃ for , 96 hours
Salt Spray	Appearance	No damage	Salt concentration: 5%/ Temperature: 35±2℃,Testing time: 24±2 hours, After salt is removed by running water and a dropis removed, it is measured.
	Contact Resistance	30mΩ 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									
Single contact insertion force		3，7								
FPC/FFC Retention Force		4，6								
Durability		5								
Vibration			3							
Mechanical Shock			4							
Temperature Rising								2		
Solder ability										2
Resistance to Soldering Heat									2	
Thermal Shock				3						
Humidity Temperature Cycling	4				3					
Temperature Life						3				
Salt Spray Cycling							3			

Note: Numbers indicate test sequence.

Refer to Fig.2：Resistance to Reflow Soldering Heat



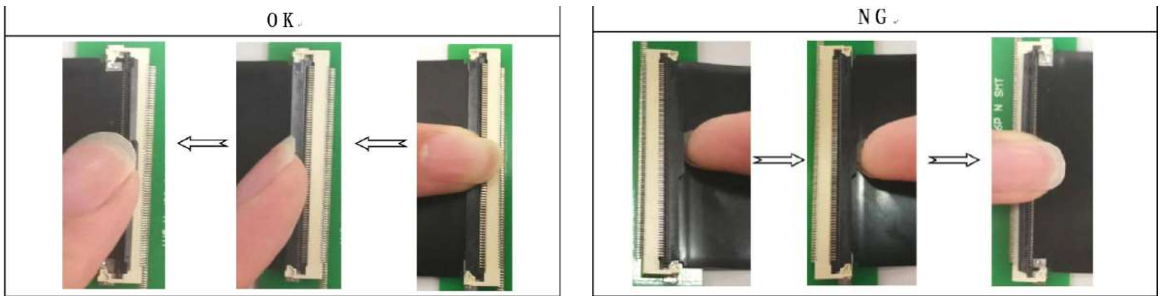
7. Connector operating instructions& precautions:

A. Please open and close the actuator with the connector is mounted is mounted on the PCB,And the FFC inserted. The actuator might not come off from opening and shutting of he Actuator in the state that FFC is not inserted and do not do, please.

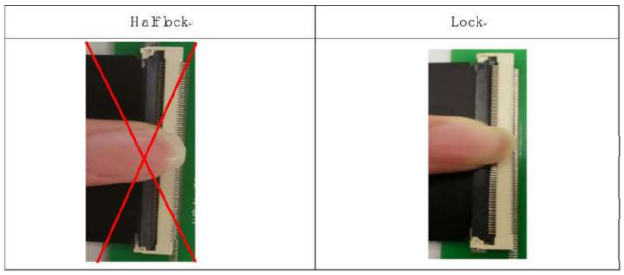
B. Do with the actuator opened completely, and insert in the interior of the insertion entrance Surely horizontally when you insert FFC. Might it become short defective, and it cause the Corner to transform the caught terminal into the terminal by the pitch gap when inserting it right and left and diagonally.



C. Please add force in the direction where the actuator is held and do by rotating it pushing in Parallel to the PCB board direction when becoming 90°or less as shown in the figure below until the angle of the actuator becomes 90°or less when you shut the actuator. Please do not add the force to rotary axis of actuator in the direction that the actuator is off.



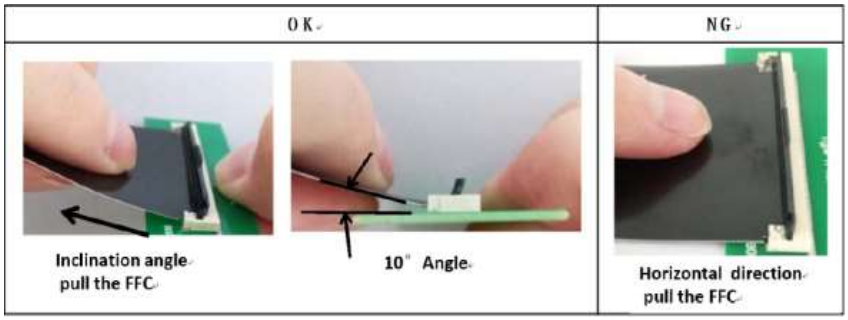
D. About the lock operating.
When you lock, it is recommended to do on both sides of the actuator. And the actuator was shut surely.



E. After the actuator is closed, please press down the surface of actuator with soft pressure in order to lock as shown in the following figure.



F. Please do when you pull out mating with actuator opened completely and do the operation that opens the actuator in the vicinity of the center part where the cutting lack exists in the actuator when you pull out FFC(FPC) after FFC(FPC) inserted



G. Do not add the load to mating FFC(FPC) with connector housing.

H. All pictures in the report are for reference only, Subject to physical object.