瀚荃股份有限公司
CviLux Corporation

CVILUX
2020.06.04
ISSUED

ENGINEERING DEPT.		PRODUCT SPECIFICATION	SPEC.NO.: SPCF092A
REVISIONS	ECNT120078	For CF71 Series Connector System	PAGE: 1/7

1. SCOPE:
This specification contains the test requirement of subject connectors when tested under the condition and below standards base on CviLux test procedure

2. APPLICABLE STANDARDS:

MIL - STD - 202	Methods for test of connectors for electronic equipment
EIA – 364	Test methods for electrical connectors
J-STD-020	Resistance to soldering Temperature for through hole Mounted Devices
SS-00254	Test methods for electronic components ,LEAD-FREE soldering Part design standards

3. APPLICABLE SERIES NO.: **CF71 Series**

4. SHAPE, CONSTRUCTION AND DIMENSIONS

See attached drawings

5. MATERIALS

See attached drawings

6. ACCOMMODATED P.C.BOARD
0.8 mm (.031″) ~ 1.6 mm (.063″)

7.FFC/FPC RECOMMENDED SPECIFICATION:
Thickness:$0.3^{+0.03}_{-0.02}$ mm($.012^{+.001}_{-.000}$ ”)

REVIEWED : Eisley APPROVED : Sun VERIFIED : Michelle .

7. ELECTRICAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT
7.1	Rated current and voltage		0.5A AC/DC (max.) 50V AC/DC (max.)
7.2	Contact Resistance	Subject mated contacts assembled in housing to closed circuit of 1mA max. at open circuit voltage of 20mV max. According ELA364-23 (MIL-STD 1344A-3002)	30 mΩ max.
7.3	Dielectric strength	Apply AC 500V between the two adjacent contacts. Electrification time:1min±5sec	No flash over and no physical damage shall be observed. Current Leakage < 5mA
7.4	Insulation Resistance	Measure by applying test potential between the adjacent contacts, and between the contacts and ground in the mated connector. According ELA364-23(MIL-STD 1344A-3003),Condition b.(500V DC 1min±5sec)	100 MΩ min.

8. MECHANICAL PERFORMANCE:

	ITEM	TEST CONDITION		REQUIREMENT
8.1	Terminal/Housing Retention Force	Apply axial pull out force on the terminal in the housing at the speed rate of 25±3mm per minute(EIA-364-29B)		0.15Kgf/Pin Min.
8.2	Actuator open force	Actuator open test shall be done with film inserted. (speed 25mm ±3mm per minute)	Actuator Open force	Pin. No*0.01 kgf min
			Test method	Cable assembly
8.3	Actuator close force	Actuator close test shall be done with film inserted. (speed 25mm ±3mm per minute)	Actuator Close force	Pin. No*0.02 kgf max.
			Test method	Cable assembly
8.4	FFC/FPC Withdrawal Force	Measured forces to withdraw wafer assembly from the housing assembly which has same circuits. (speed 25mm ±3mm per minute)		Pin. No*0.083 kgf min

	ITEM	TEST CONDITION	REQUIREMENT
8.5	Vibration	Current of 0.1A shall be applied during the testing. The vibration shall be along each axis for the period of two hours with the maximum amplitude of 1.52mm and frequency of 10 to 55 to 10Hz/min according to MIL-STD-202 METHOD 201.	Appearance: No damage Contact resistance: 30 mΩ max. Discontinue: 1μsec Max
8.6	Shock (Mechanical)	Mate applicable FFC: Shock at 50g's, 3 strokes in each X,Y,Z axes	Appearance: No damage Contact resistance: 30 mΩ max. Discontinue: 1μsec Max
8.7	Durability	Operation Speed: 25.4mm/min. Durability Cycles: 30 cycles.	Contact resistance: 30 mΩ max.

9. ENVIRONMENTAL PERFORMANCE:

<table>
<tr><th></th><th>ITEM</th><th>TEST CONDITION</th><th>REQUIREMENT</th></tr>
<tr><td>9.1</td><td>Humidity</td><td>Mated connectors shall be left in the chamber of 40±2°C temperature and
90~95% humidity for 96hrs.
After drying in ambient condition for 1 hours, measurement is done in accordance with MIL-STD-202,Method 103-B.</td><td>Appearance: No damage
Contact resistance:
30 mΩ max.
Dielectric strength:
No breakdown at 150V.
Insulation Resistance:
100 MΩ min.</td></tr>
<tr><td>9.2</td><td>Heat aging</td><td>The test is conducted according to the conditions specified below.
After the test, take the specimens rest at Ambient temperature for 1 hours.
Temperature:85°C±2°C
Duration: 96 hr</td><td>Appearance: No damage
Contact resistance:
30 mΩ max.
Dielectric strength:
No breakdown at 150V.
Insulation Resistance:
100 MΩ min.</td></tr>
<tr><td>9.3</td><td>Temperature cycling</td><td>Mated connector shall be exposed five cycles as table #1 The testing shall be in accordance with MIL-STD-202, Method 107-A Table#1.
<table>
<tr><td>STEP</td><td>1</td><td>2</td><td>3</td><td>4</td></tr>
<tr><td>TEM' (°C)</td><td>-55±3</td><td>25 +10/-0</td><td>85±2</td><td>25 +10/-5</td></tr>
<tr><td>Exposed time (min)</td><td>30</td><td>5</td><td>30</td><td>5</td></tr>
</table></td><td>Appearance: No damage
Contact resistance:
30 mΩ max.
Dielectric strength:
No breakdown at 150V.
Insulation Resistance:
100 MΩ min.</td></tr>
</table>

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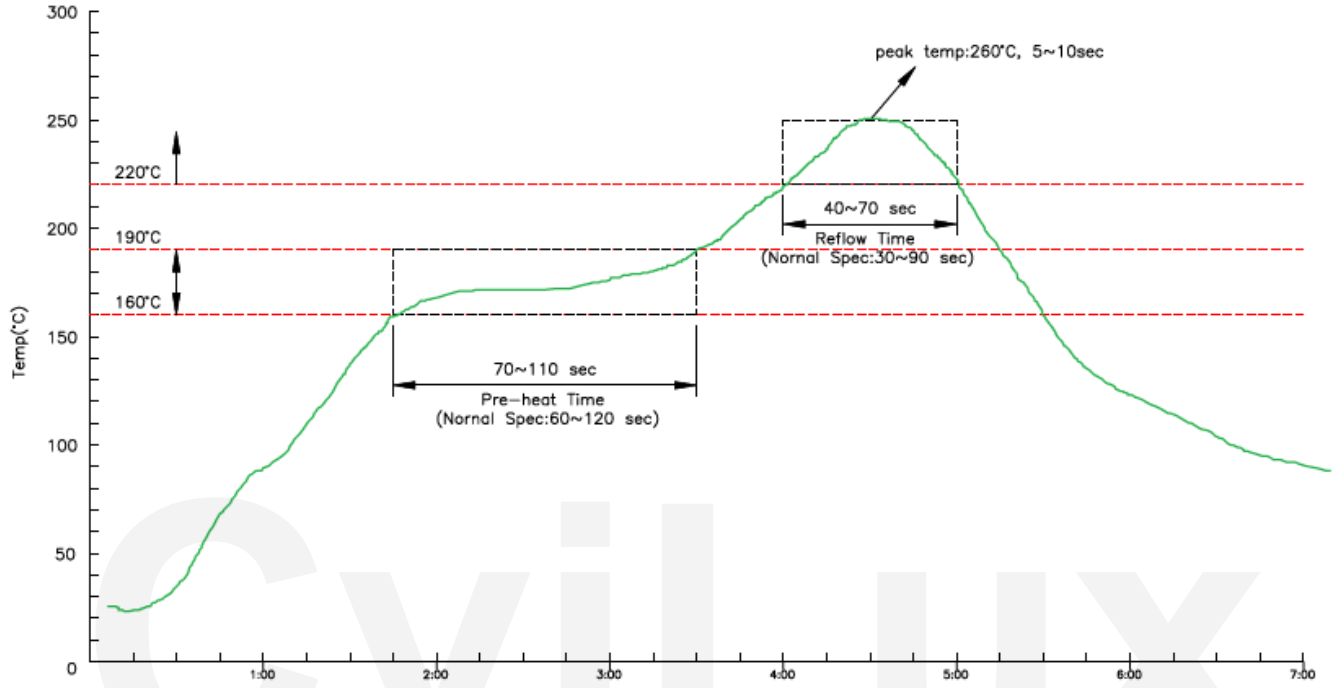
REVISIONS	ECNT120078	For CF71 Series Connector System	PAGE: 4/7

	ITEM	TEST CONDITION	REQUIREMENT
9.4	Salt spray	Temperature: 35 3 C Solution: 5 1% Spray time: 48 4 hours (Stamping before plated) Spray time: 24 4 hours (Stamping after plated) Mate connectors and 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 and dried naturally, after which the specified measurements shall be performed. The specimens shall be suspended from the top using waxed twine, string or nylon thread. The test only define the plating area, without plating area (as copper cross section) will not be defined. (EIA 364-26B / MIL-STD-202 Method 101)	Appearance: No damage Contact resistance: 30 mΩ max. Dielectric strength: No breakdown at 150V. Insulation Resistance: 50 MΩ min.
9.5	Cold aging	The test is conducted according to the conditions specified below. After the test, take the specimens rest at ambient temperature for 1 hours. Temperature: -40±2°C Duration: 96h	Appearance: No damage Contact resistance: 30 mΩ max. Dielectric strength: No breakdown at 150V. Insulation Resistance: 100 MΩ min.
9.6	Solder ability	Soldering time: 3±0.5 second Soldering pot: 245±5°C (EIA364-26)	Minimum: 95% of immersed area
9.7	Resistance to soldering heat	Soldering time: 5~10 second Soldering pot: 260°C Refer Reflow temperature profile(11)	No damage

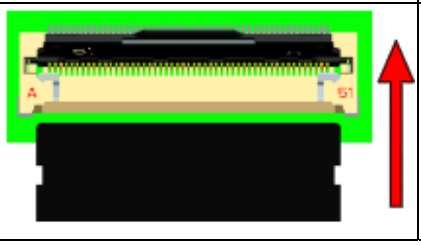
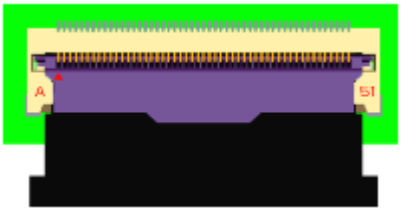
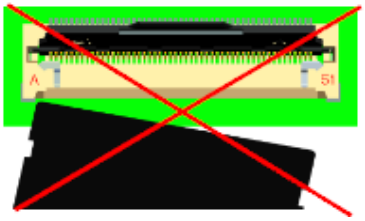
10. Operating temperature range：-40℃ to +85℃

11. Recommended Temperature Profile(Lead-Free):

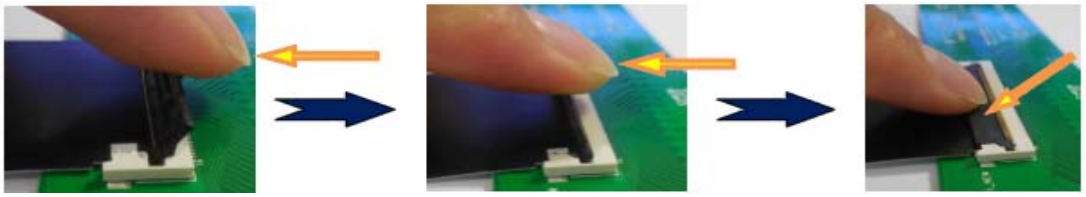


12. Connector operating instructions & precautions:

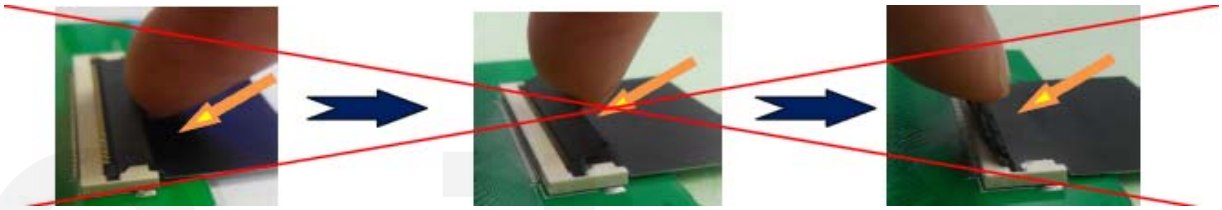
12.1	Please open and close the actuator with the connector is mounted on the PCB, and the FFC inserted. The actuator might not come off from opening and shutting of the actuator in the state that FFC is not inserted and do not do, please.
12.2	Do with the actuator opened completely, and insert in the 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 diagonally.

Horizontally	AFIER INSERT FFC(FPC)	Oblique insertion
		

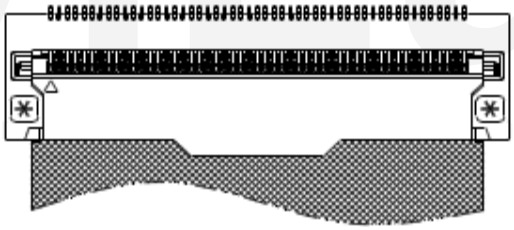
12.3 Please add force inthe direction where the actuator is held and do by rotating it pushing in parallel to the PCB direction when becoming 90 or less as shown in the figure below until the angle of the actuator becomes 90 or less when you shut the actuator.
Please do not add the force to rotary axis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

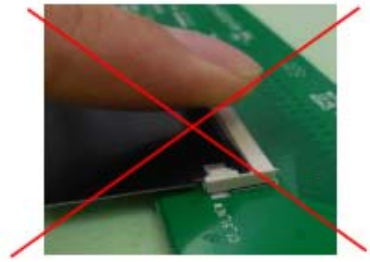
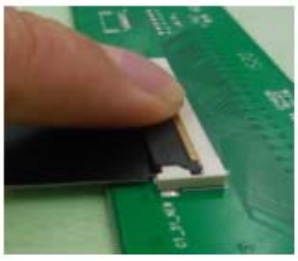


NG

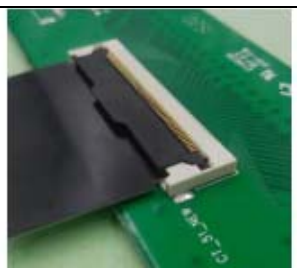


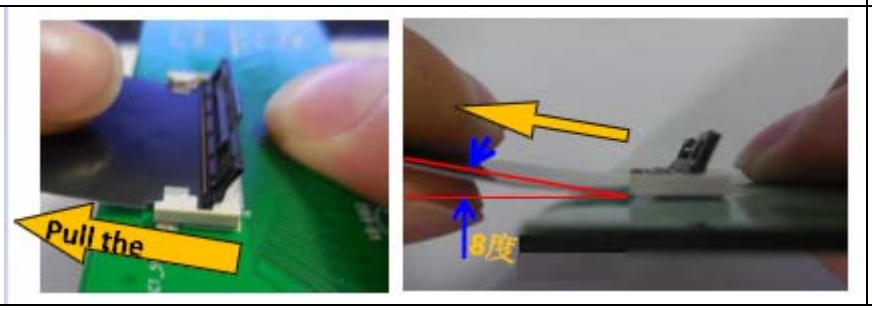
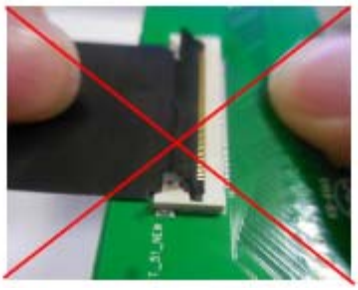
12.4 About the lock operating.
When you lock, it is recommended to do on both sides of the actuator.
And the actuator was shut surely.



Half lck	Lock
	

12.5 After the actuator is closed , please press down the surface of actuator with sofe pressure inorder to lork as shown in the following figure.



12.6	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 inserted. When you pull out after FFC.	
	OK	NG
		
12.7	Do not add the load to mating FFCwith connector housing.	