瀚荃股份有限公司
CviLux Corporation

ENGINEERING DEPT.		PRODUCT SPECIFICATION	SPEC.NO.: SPCF070A
REVISIONS	-	For CF50 Series Connector System	PAGE: 1/6

1. SCOPE:
This product specification contains the test method the general performance and requirement for CF50 series connectors.

2. APPLICABLE DOCUMENTS:
Reference documents listed below shall be the latest revision unless otherwise specified. Should a conflict occur between this specification and any of the listed documents then this specification shall prevail.
2.1 Industry standards：
EIA-364-□□ electrical connector test procedures

3. SHAPE, CONSTRUCTION AND DIMENSIONS
See attached drawings

4. MATERIALS
See attached drawings

5. ACCOMMODATED P.C.BOARD
5.1 Thickness: 0.5 mm (.020″) ~ 2.0 mm (.079")
5.2 P.C. Board Layout: See attached drawings

6. FPC/FFC RECOMMENDED SPECIFICATION:
Thickness：0.3±0.03 mm (.012±.002″)

CVILUX CORP
2013.06.06
ISSUED

REVIEWED : Jerry APPROVED : Francis VERIFIED : Claire .

ENGINEERING DEPT.		PRODUCT SPECIFICATION	SPEC.NO.: SPCF070A
REVISIONS	-	For CF50 Series Connector System	PAGE: 2/6

7. ELECTRICAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT
7.1	Rated current and voltage		0.5A DC 50V AC
7.2	Contact Resistance	Measured at 20 mV maximum open circuit at 100mA .Mated test contacts must be in a connector housing. (EIA364-23)	Initially :Less than 30 mΩ Finally :Less than 60 mΩ
7.3	Dielectric strength	Test between adjacent contacts with a voltage of 500 VAC for 1 minute at Sea level. (EIA364-20 Method B)	No current leakage and flashover or damage detected.
7.4	Insulation Resistance	After 500 VDC for 1 minute , measure the insulation resistance between the adjacent contacts. (EIA364-21)	1000 MΩ Min.

8. MECHANICAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT
8.1	FFC/FPC Retention Force	Apply axial load to FFC/FPC by operating at the speed rate of 25.4 ± 3 mm/min.	0.03 Kgf / Pin min.
8.2	Contact retaining force in insulator	The end of terminal shall be pulled in a perpendicular to base housing at a maximum rate of 25.4 ± 3mm/min. (EIA 364-29)	More than 0.15 Kgf
8.3	TAB Retention Force	Apply axial pull out of force at the speed of 25.4 ± 3mm/min. on the fitting nail assembled in the housing.	More than 0.10 Kgf
8.4	Durability	Mate applicable FFC/FPC and insert and withdraw actuator at the speed rate of 25.4 ± 3mm/min. Times :Up to 20 cycles.	Appearance: No damage Contact resistance shall meet requirement of 7.2 FFC/FPC Retention Force: 0.03Kgf/Pin min.

9. ENVIRONMENTAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT
9.1	Temperature rise	The object of this test procedure is to detail a standard method to assess the current carrying capacity of mated battery connector contact. Test as per EIA364-70 Method B	0.5 A per pin minimum. The temperature rise above ambient shall not exceed 30℃ at any point in the connector when contact positions are powered. The ambient condition is still air at 25℃.

ENGINEERING DEPT.		PRODUCT SPECIFICATION	SPEC.NO.: SPCF070A
REVISIONS	-	For CF50 Series Connector System	PAGE: 3/6

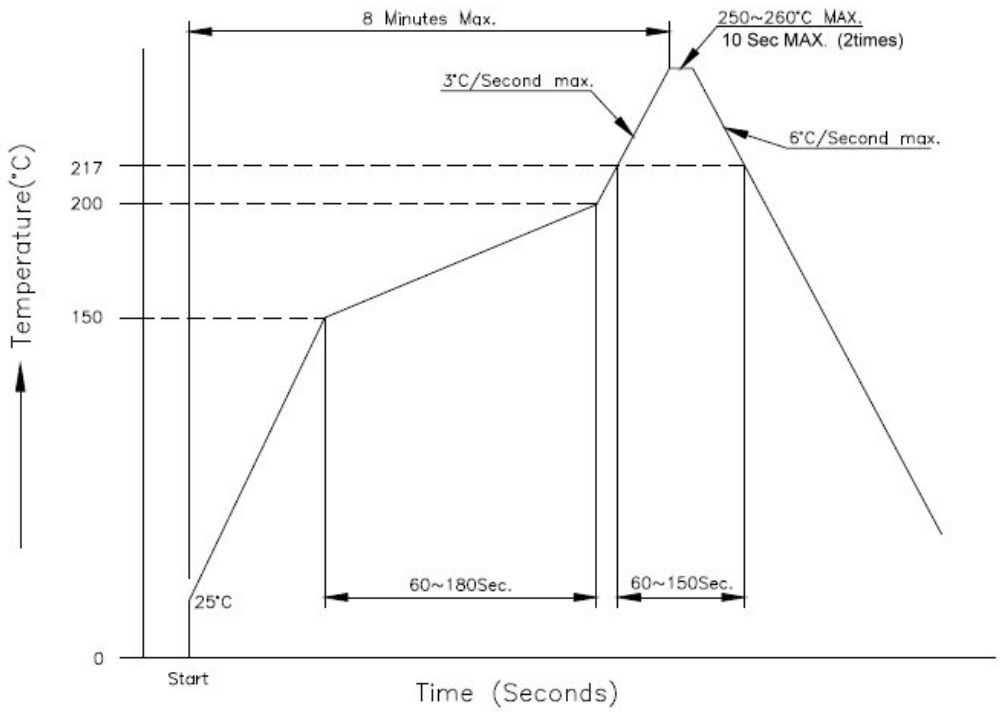
	ITEM	TEST CONDITION	REQUIREMENT
9.2	Vibration	Subject mated FFC/FPC, All contacts shall be connected in series and DC 100mA shall be applied. Frequency:10~55 Hz Full amplitude1.5mm in 3 directions for 2 hours respectively. (EIA 364 – 28 Condition Ⅰ)	Appearance: No damage Discontinuity: 1 micro second max.
9.3	Physical Shock	Subject mated FFC/FPC to 50 G's half-sine shock pulses of 11ms duration. Three shocks in each direction applied along three mutually perpendicular planes for a total of 18 shocks. (EIA364-27 condition A)	Appearance: No damage Discontinuity: 1 micro second max.
9.4	Solder ability	Steam age 1 hour at 90℃～96℃ Solder time to be 5±1 seconds at 245℃±5℃, using unactivated flux. (EIA364-52)	Minimum: 95% of immersed area
9.5	Resistance to soldering heat	Soldering time: 10 second , 2times Soldering pot: 250~260°C max.	No damage
9.6	Hand Soldering Method	Use a soldering iron that has a sufficient head capacity and high stability of temperature. The tip of the iron should be shaped so as not to touch the part body directly. Temperature : 380±10℃ 3s	No damage
9.7	Heat aging	Subject unmated connectors to temperature life at 85℃±2℃ for 96 hours. (EIA 364 – 17 Test Condition Ⅲ Method A)	Appearance：No damage Contact resistance shall meet requirement of 7.2
9.8	Humidity	Subject unmated connectors to 96 hours at 40℃ with 90% to 95% RH. (EIA 364 – 31 Method Ⅱ Test Condition A)	Appearance：No damage Contact resistance and insulation resistance shall meet requirement of 7.2 , 7.4

ENGINEERING DEPT.		PRODUCT SPECIFICATION	SPEC.NO.: SPCF070A
REVISIONS	-	For CF50 Series Connector System	PAGE: 4/6

	ITEM	TEST CONDITION	REQUIREMENT
9.9	Temperature cycling	Subject unmated connectors shall be tested in accordance with EIA364–32 Test Condition Ⅰ. (1)-55℃,30 minute (2)+25℃,5 minute (3)+85℃,30 minute (4)+25℃,5 minute consecutive 10 cycles.	Appearance: No damage Contact resistance shall meet requirement of 7.2

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

11.Recommended Temperature Profile(Lead-Free):

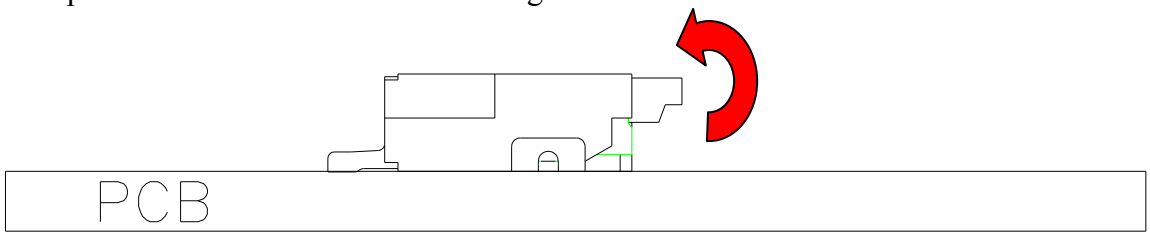


(Reflow 2 cycles)

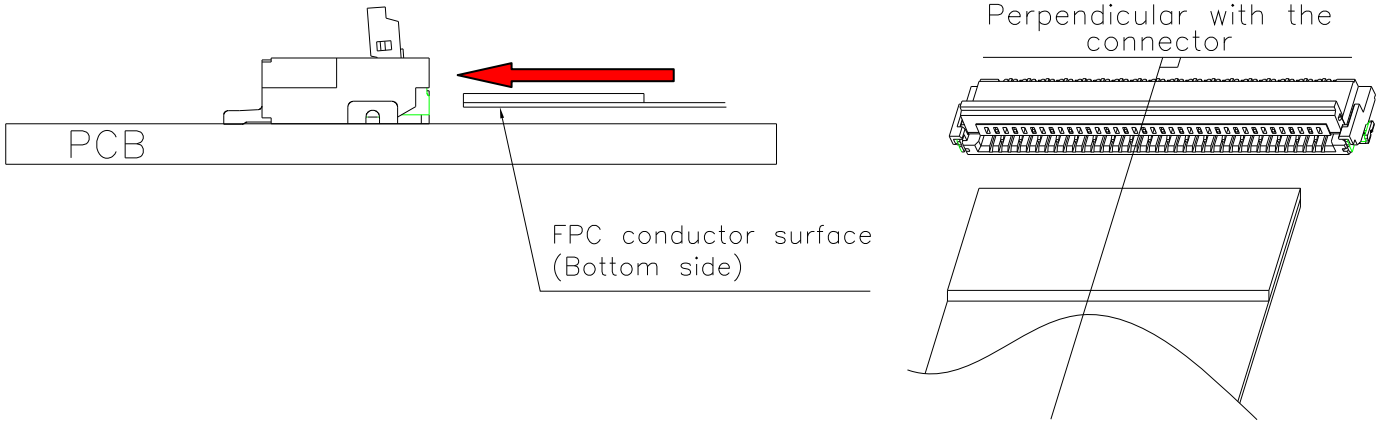
13. OPERATING INSTRUCTIONS AND PRECAUTIONS:

13.1 Operating instruction

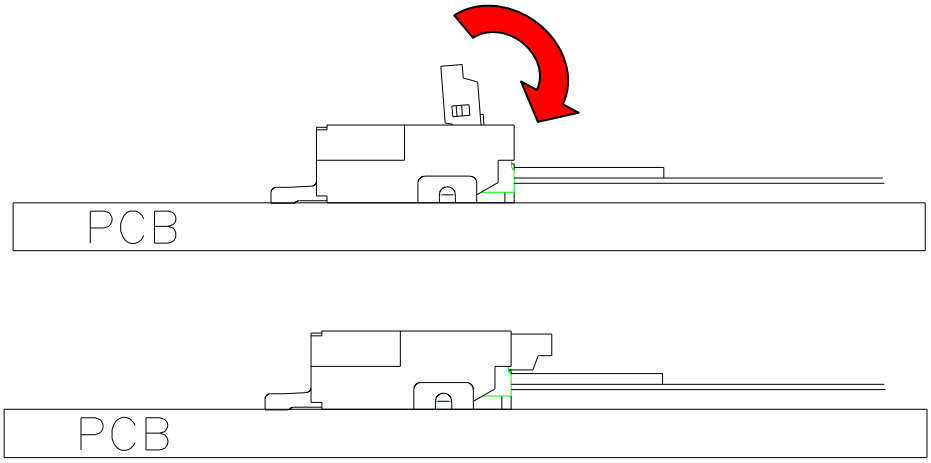
13.1.1 Lift up the actuator. Use thumb or forefinger.



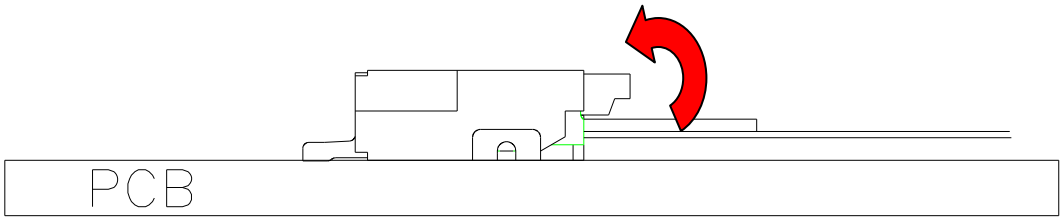
13.1.2 Fully insert the FFC/FPC in the connector parallel to mounting surface, with the exposed conductive traces facing down. And ensure that the FFC/FPC is properly inserted into the connector insertion slot.



13.1.3 Rotate down the actuator until firmly closed. It is critical that the inserted FFC/FPC is not moved and remains fully inserted.



13.1.4 Lift up the actuator and pull out the FFC/FPC after the lock is released.



13.2 Precautions for use

Do not apply force in the upward direction (as illustrated). Do not bend the FPC/FFC too close to the actuator.