ENGINEERING	RELIABILITY TEST REPORT	SPEC.NO.: SPCF070A
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TEST ITEM :1.ELECTRICAL
2.MECHANICAL
3.ENVIRONMENTAL

TEST EQUIPMENT :1.INSERTION & REMOVAL APPARATUS
2.ELECTRONIC MEASURING APPARATUS
3.ENVIRONMENTAL APPARATUS

SERIES NO. : P/N: CF50**1D0RK-05-NH (For 12P & 26P)

DATE OF TESTING : 2016/11/17

TEST DEPART : R&D

LOT Number:

CONTAIN : ATTACHED

TEST RESULT: ■ACCEPT □REJECT

CVILUX.CORP
2016.11.18
ISSUED

APPROVE BY: Eisley CHECKED By: Eisley TESTER BY: Hank

1.ELECTRICAL PERFORMANCE :

	ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT	
1-1	Contact Resistance	Measured at 20 mV maximum open circuit at 100mA .Mated test contacts must be in a connector housing. Test as per EIA364-23	Less than 30 mΩ	Sample	＜ 30 mΩ.
				1	11.62 mΩ
				2	10.58 mΩ
				3	11.60 mΩ
				4	10.81 mΩ
				5	11.59 mΩ
1-2	Dielectric strength	Test between adjacent contacts with a voltage of 500 VAC for 1 minute at Sea level. Test as per EIA364-20 Method B	No Damage	Sample	500 V 1 minute
				1	OK
				2	OK
				3	OK
				4	OK
				5	OK
1-3	Insulation resistance	After 500 VDC for 1 minute , measure the insulation resistance between the adjacent contacts. Test as per EIA364-21	More than 1000 MΩ	Sample	1000 MΩ min
				1	＞1000 MΩ
				2	＞1000 MΩ
				3	＞1000 MΩ
				4	＞1000 MΩ
				5	＞1000 MΩ

2. MECHANICAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT	
2-1	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. 12PIN X 0.03Kgf = 0.36Kgf	Sample	＞0.36Kgf
				1	0.478 Kgf
				2	0.458 Kgf
				3	0.466 Kgf
				4	0.443 Kgf
				5	0.470 Kgf
			0.03 Kgf/Pin min. 26PIN X 0.03Kgf = 0.78Kgf	Sample	＞0.78Kgf
				1	0.874 Kgf
				2	0.912 Kgf
				3	0.935 Kgf
				4	0.899 Kgf
				5	0.928 Kgf

	ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT	
2-2	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 ± 3 mm/min. Test as per EIA 364-29	More than 0.15 Kgf	Sample	＞0.15 Kgf
				1	0.313 Kgf
				2	0.354 Kgf
				3	0.328 Kgf
				4	0.322 Kgf
				5	0.319 Kgf
2-3	TAB Retention Force	Apply axial pull out of force at the speed of 25.4 ± 3 mm/min. on the fitting nail assembled in the housing.	More than 0.10 Kgf	Sample	＞0.10 Kgf
				1	0.45 Kgf
				2	0.52 Kgf
				3	0.48 Kgf
				4	0.50 Kgf
				5	0.44 Kgf
2-4	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	Sample	
				1	OK
				2	OK
				3	OK
				4	OK
				5	OK
			Contact Resistance： Less than 60 mΩ	Sample	＜ 60 mΩ.
				1	11.72 mΩ
				2	11.62 mΩ
				3	11.87 mΩ
				4	11.69 mΩ
				5	11.23 mΩ
			0.03 Kgf/Pin min. 12PIN X 0.03Kgf＝ 0.36Kgf	Sample	＞0.36Kgf
				1	0.456 Kgf
				2	0.443 Kgf
				3	0.412 Kgf
				4	0.427 Kgf
				5	0.410 Kgf
			0.03 Kgf/Pin min. 26PIN X 0.03Kgf＝ 0.78Kgf	Sample	＞0.78Kgf
				1	0.853 Kgf
				2	0.893 Kgf
				3	0.912 Kgf
				4	0.866 Kgf
				5	0.843 Kgf

3.ENVIRONMENTAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT	
3-1	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	30°C max.	Sample	30 ℃ max.
				1	27 ℃
				2	28 ℃
				3	28 ℃
				4	28 ℃
				5	27 ℃
3-2	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	Sample	No damage
				1	OK
				2	OK
				3	OK
				4	OK
				5	OK
3-3	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	Sample	No damage
				1	OK
				2	OK
				3	OK
				4	OK
				5	OK
3-4	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	Sample	
				1	OK
				2	OK
				3	OK
				4	OK
				5	OK
3-5	Resistance to soldering heat	Soldering time: 10 second , 2times Soldering pot: 250~260°C max.	Appearance : No damage	Sample	No damage
				1	OK
				2	OK
				3	OK
				4	OK
				5	OK

	ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT	
3-6	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	Appearance : No damage	Sample	No damage
				1	OK
				2	OK
				3	OK
				4	OK
				5	OK
3-7	Heat aging	Subject unmated connectors to temperature life at 85℃±2℃ for 96 hours. Test as per EIA 364 – 17 Test Condition Ⅲ Method A.	Appearance: No damage Contact resistance: Less than 60 mΩ	Sample	
				1	OK
				2	OK
				3	OK
				4	OK
				5	OK
				Sample	＜ 60 mΩ.
				1	11.55 mΩ
				2	10.98 mΩ
				3	11.43 mΩ
				4	11.22 mΩ
				5	10.83 mΩ
3-8	Humidity	Subject unmated connectors to 96 hours at 40℃ with 90% to 95% RH. Test as per EIA 364 – 31 Method Ⅱ Test Condition A.	Appearance: No damage	Sample	
				1	OK
				2	OK
				3	OK
				4	OK
				5	OK
			Contact resistance : Less than 60 mΩ	Sample	＜ 60 mΩ.
				1	11.54 mΩ
				2	11.88 mΩ
				3	11.60 mΩ
				4	11.83 mΩ
				5	11.62 mΩ

	ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT	
3-8	Humidity	Subject unmated connectors to 96 hours at 40℃ with 90% to 95% RH. Test as per EIA 364 – 31 Method Ⅱ Test Condition A.	Insulation resistance More than 1000 MΩ	Sample	＞1000 MΩ.
				1	＞1000 MΩ
				2	＞1000 MΩ
				3	＞1000 MΩ
				4	＞1000 MΩ
				5	＞1000 MΩ
3-9	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	Sample	
				1	OK
				2	OK
				3	OK
				4	OK
				5	OK
			Contact resistance: 60 mΩ Max.	Sample	＜ 60 mΩ.
				1	13.12 mΩ
				2	13.28 mΩ
				3	12.87 mΩ
				4	12.96 mΩ
				5	13.05 mΩ

4. AMBIENT TEMPERATURE RANGE: -40 to + 85°C