瀚荃股份有限公司
CviLux Corporation

RELIABILITY TEST REPORT

TEST ITEM : 1. ELECTRICAL
2. MECHANICAL
3. ENVIRONMENTAL

SERIES NO. : CF61112D0R0-05-NH

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

DATE OF TESTING : 2014/08/14

TEST DEPART: RD TESTER: Claire

CONTAINT: ATTACHED

SPEC NO:SPCF077A

REVIEWED : Jerry APPROVED : Francis VERIFIED : Claire .

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. (EIA364-23)	Initially: Less than 20 mΩ Finally: Less than 40 mΩ	Sample	< 20 mΩ
				1	10.5 mΩ
				2	10.6 mΩ
				3	10.4 mΩ
				4	10.5 mΩ
				5	10.7 mΩ
1-2	Dielectric strength	Test between adjacent contacts with a voltage of 250 VAC for 1 minute at Sea level. (EIA364-20 Method B)	No Damage	Sample	250 V 1 minute
				1	PASS
				2	PASS
				3	PASS
				4	PASS
				5	PASS
1-3	Insulation resistance	After 500 V DC for 1 minute , measure the insulation resistance between the adjacent contacts. (EIA364-21)	More than 500 MΩ	Sample	500 MΩ min
				1	＞500 MΩ
				2	＞500 MΩ
				3	＞500 MΩ
				4	＞500 MΩ
				5	＞500 MΩ

2. MECHANICAL PERFORMANCE :

	ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT	
2-1	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 per minute. (EIA 364-29)	More than 0.10Kgf	Sample	> 0.10 Kgf
				1	0.351 Kgf
				2	0.346 Kgf
				3	0.363 Kgf
				4	0.372 Kgf
				5	0.381 Kgf
2-2	FFC/FPC Retention Force	Apply axial load to FFC/FPC by operating at the speed rate of 25.4 ± 3 mm per minute.	0.03 Kgf /Pin min. 0.03×11PIN=0.33 Kgf	Sample	> 0.33 Kgf
				1	1.576Kgf
				2	1.617Kgf
				3	1.699Kgf
				4	1.410Kgf
				5	1.821Kgf
2-3	Durability	Mate applicable FFC/FPC and insert and withdraw actuator at the speed rate of 25.4 ± 3 mm per minute. Times :Up to 20cycles.	Appearance: No damage	Sample	No damage
				1	PASS
				2	PASS
				3	PASS
				4	PASS
				5	PASS
			Contact Resistance: Less than 40 mΩ	Sample	< 40 mΩ
				1	11.6 mΩ
				2	11.2 mΩ
				3	12.1 mΩ
				4	11.7 mΩ
				5	12.3 mΩ
			0.03 Kgf /Pin min. 0.03×11PIN=0.33 Kgf	Sample	> 0.33 Kgf
				1	1.487Kgf
				2	1.426Kgf
				3	1.648Kgf
				4	1.605Kgf
				5	1.306Kgf
2-3	Fitting Nail Retention Force	Apply axial pull out of force at the speed of 25.4 ± 3 mm per minute on the fitting nail assembled in the housing.	More than 0.10 Kgf	Sample	> 0.10 Kgf
				1	0.232 Kgf
				2	0.201 Kgf
				3	0.218 Kgf
				4	0.207 Kgf
				5	0.225 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	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℃.	Sample	30 ℃ max.
				1	PASS
				2	PASS
				3	PASS
				4	PASS
				5	PASS
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	PASS
				2	PASS
				3	PASS
				4	PASS
				5	PASS
			Discontinuity: 1 micro second max	Sample	1 micro second max
				1	PASS
				2	PASS
				3	PASS
				4	PASS
				5	PASS
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	PASS
				2	PASS
				3	PASS
				4	PASS
				5	PASS
			Discontinuity: 1 micro second max	Sample	1 micro second max
				1	PASS
				2	PASS
				3	PASS
				4	PASS
				5	PASS
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	95% of immersed area
				1	PASS
				2	PASS
				3	PASS
				4	PASS
				5	PASS

	ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT	
3-5	Resistance to soldering heat	Soldering time: 10 second Max., 2times Soldering pot: 250°C±5℃ Max.	No damage	Sample	No damage
				1	PASS
				2	PASS
				3	PASS
				4	PASS
				5	PASS
3.6	Hand Soldering Method	Soldering time: 5 seconds Max. Solder temperature :360°C±5°C	No damage	Sample	No damage
				1	PASS
				2	PASS
				3	PASS
				4	PASS
				5	PASS
3-7	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	Sample	No damage
				1	PASS
				2	PASS
				3	PASS
				4	PASS
				5	PASS
			Contact resistance: 40 mΩ Max.	Sample	< 40 mΩ
				1	11.7 mΩ
				2	11.4 mΩ
				3	12.1 mΩ
				4	12.3 mΩ
				5	11.5 mΩ
3-8	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	Sample	No damage
				1	PASS
				2	PASS
				3	PASS
				4	PASS
				5	PASS
			Contact resistance: Less than 40 mΩ	Sample	< 40 mΩ
				1	11.6 mΩ
				2	11.5 mΩ
				3	12.1 mΩ
				4	11.6 mΩ
				5	11.4 mΩ
			Insulation resistance More than 500 MΩ	Sample	500 MΩ min.
				1	＞500 MΩ
				2	＞500 MΩ
				3	＞500 MΩ
				4	＞500 MΩ
				5	＞500 MΩ

	ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT	
3-8	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	No damage
				1	PASS
				2	PASS
				3	PASS
				4	PASS
				5	PASS
			Contact resistance: 40 mΩ change from initial.	Sample	< 40 mΩ
				1	11.7 mΩ
				2	12.6 mΩ
				3	12.1 mΩ
				4	11.5 mΩ
				5	12.5 mΩ
3-9	Mixed Flowing Gas	There shall be no change in contact resistance greater than 20 mΩ from initial when mated specimens are subjected to environmental class Ⅱ. Test as per EIA364-65 for 4 days mated. Relative Humidity：70±2% Relative Temp.：30±2℃ Pollutant Concentration： Cl2：10±3 ppb NO2：200±50 ppb H2S：10±5 ppb	Appearance: No damage	Sample	No damage
				1	PASS
				2	PASS
				3	PASS
				4	PASS
				5	PASS
			Contact resistance: 40 mΩ Max.	Sample	< 40 mΩ
				1	12.5 mΩ
				2	11.1 mΩ
				3	12.1 mΩ
				4	11.7 mΩ
				5	11.3 mΩ

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

5.Recommended Temperature Profile(Lead-Free):