



瀚荃股份有限公司  
CviLux Corporation

## RELIABILITY TEST REPORT

TESTITEM : 1.ELECTRICAL  
2.MECHANICAL  
3.ENVIRONMENTAL

SERIES NO. : CF31 SERIES

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

DATE OF TESTING : 7/22/2011”

TEST DEPART : R&D TESTER : Una

CONTAINT : ATTACHED



REVIEWED : Eisley APPROVED : Sun VERIFIED : Una

**1. ELECTRICAL PERFORMANCE :**

	ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT	
1-1	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
1-2	Insulation resistance	After 500 VDC for 1 minute , measure the insulation resistance between the adjacent contacts. Test as per 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
1-3	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 20 mΩ	Sample	20 mΩ. max.
				1	9.0 mΩ
				2	9.4mΩ
				3	13.2 mΩ
				4	10.2 mΩ
				5	12.4 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 mm per minute. Test as per EIA 364-29	More than 0.3Kgf	Sample	0.3 Kgf min.
				1	0.399 Kgf
				2	0.389 Kgf
				3	0.440 Kgf
				4	0.426 Kgf
				5	0.408 Kgf
2-2	FFC/FPC Retention Force	Apply axial load to FFC/FPC by operating at the speed rate of 25 mm per minute.	0.03 Kgf/Pin min.	Sample	0.03Kgf/Pin min.
				1	0.131 Kgf
				2	0.161 Kgf
				3	0.115 Kgf
				4	0.127 Kgf
				5	0.116 Kgf
2-3	Fitting Nail Retention Force	Apply axial pull out of force at the speed of 25 mm per minute on the fitting nail assembled in the housing.	More than 0.3 Kgf	Sample	0.3 Kgf min.
				1	0.364 Kgf
				2	0.401 Kgf
				3	0.378 Kgf
				4	0.365 Kgf
				5	0.382 Kgf

ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT	
2-4 Durability	Mate applicable FFC/FPC and insert and withdraw actuator at the speed rate of 25 mm per minute. Times :Up to30 cycles.	Appearance: No damage	Sample	
			1	OK
			2	OK
			3	OK
			4	OK
		5	OK	
		Contact Resistance : Less than 40 mΩ	Sample	40 mΩ max.
			1	9.7mΩ
			2	11.7 mΩ
			3	10.4 mΩ
			4	12.5 mΩ
		FFC/FPC Retention Force: 0.03Kgf/Pin min.	Sample	0.03Kgf/Pin min.
			1	0.065 Kgf
			2	0.065 Kgf
			3	0.076 Kgf
4	0.069 Kgf			
5	0.076 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 °C max.
			1	28 °C
			2	27 °C
			3	28 °C
			4	28 °C
			5	27 °C
3-2 Heat aging	Subject unmated connectors to temperature life at 85°C±2°C for 96 hours. Test as per EIA 364 – 17 Test Condition III Method A.	Appearance: No damage	Sample	
			1	OK
			2	OK
			3	OK
			4	OK
		5	OK	
		Contact resistance: Less than 40 mΩ	Sample	40 mΩ max.
			1	12.2mΩ
			2	11.4 mΩ
			3	8.70 mΩ
			4	8.90 mΩ
5	11.1 mΩ			



ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT			
			Sample			
3-3	Humidity Subject unmated connectors to 96 hours at 40°C 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 40 mΩ	Sample	40 mΩ max.		
			1	8.5 mΩ		
			2	9.4 mΩ		
			3	9.7 mΩ		
			4	8.2 mΩ		
		Insulation resistance More than 500 MΩ	Sample	500 MΩ min.		
			1	> 500 MΩ		
			2	> 500 MΩ		
			3	> 500 MΩ		
4	> 500 MΩ					
3-4	Temperature cycling Subject unmated connectors shall be tested in accordance with EIA364–32 Test Condition I . (1)-55°C,30 minute (2)+25°C,5 minute (3)+85°C,30 minute (4)+25°C,5 minute consecutive 10 cycles.	Appearance : No damage	Sample			
			1	OK		
			2	OK		
			3	OK		
			4	OK		
		5	OK			
		Contact resistance: 40 mΩ Max.	Sample	40 mΩ Max.		
			1	13.8 mΩ		
			2	12.2 mΩ		
			3	13.9 mΩ		
			4	14.1 mΩ		
		5	13.6 mΩ			
		3-5	Solderability Steam age 1 hour at 90°C ~96°C Solder time to be 5±1 seconds at 245°C, using unactivated flux. Test as per EIA364-52	Minimum: 95% of immersed area	Sample	
					1	OK
					2	OK
3	OK					
4	OK					
5	OK					
3-6	Resistance to soldering heat Soldering time: 10 second Soldering pot: 260°C max. Reflow soldering (Infrared): Refer soldering method The conditions specified on the recommended temperature profile Shall be repeated twice.	Appearance : No damage	Sample			
			1	OK		
			2	OK		
			3	OK		
			4	OK		
5	OK					