



瀚荃股份有限公司
CviLux Corporation

RELIABILITY TEST REPORT

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

SERIES NO.: CP14 SERIES
(P/N: CP1404M1HRB-NH)

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

DATE OF TESTING: 02 / 04 / 2012

TEST DEPART: R&D

TESTER: Clark.Chen

CONTAIN: ATTACHED



REVIEWED: David APPROVED: David VERIFIED: Clark



1.ELECTRICAL PERFORMANCE :

	ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT	
1-1	Contact resistance	Dry circuit of DC 20mV max.,10mA max., wire resistance shell be removed from the measured value	Less than 20 mΩ	Sample	20 mΩ max.
				1	7.39 mΩ
				2	7.71 mΩ
				3	7.62 mΩ
				4	7.28 mΩ
				5	7.91 mΩ
1-2	Dielectric strength	When applied AC1500V 1 minute between adjacent terminal.	No breakdown	Sample	1 minute
				1	Pass
				2	Pass
				3	Pass
				4	Pass
				5	Pass
1-3	Insulation resistance	When applied DC 500 V between adjacent terminal or ground	More than 1000 MΩ	Sample	1000 MΩ min.
				1	4×10^5 MΩ
				2	5×10^5 MΩ
				3	6×10^5 MΩ
				4	8×10^5 MΩ
				5	6×10^5 MΩ

2. MECHANICAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT	
2-1	Pin retention force in Board mount Header	Push Pin for insulator base at speed 25±3 mm per minute	More than 0.8 Kgf	Sample	> 0.8 Kgf
				1	1.434 kgf
				2	1.544 kgf
				3	1.448 kgf
				4	1.419 kgf
				5	1.363 kgf
2-2	FR4 Mating force	Speed 25±3 mm per minute (With 0.80mm FR4)	Less than 2.5 Kgf	Sample	< 2.5 kgf f
				1	0.986 kgf
				2	0.965 kgf
				3	0.888 kgf
				4	0.943 kgf
				5	0.911 kgf
2-3	FR4 Unmating force	Speed 25±3 mm per minute (With 0.80mm FR4)	More than 0.2 Kgf (0.05x4=0.2 kgf)	Sample	> 0.2 Kgf
				1	0.393 kgf
				2	0.361 kgf
				3	0.322 kgf
				4	0.316 kgf
				5	0.308 kgf



2-4	Durability	Connector shall be subjected to 20 cycles of insertion and withdrawal	Contact resistance: Less than twice of initial	Sample	Contact resistance
				1	10.02 mΩ
				2	10.71 mΩ
				3	9.48 mΩ
				4	10.08 mΩ
				5	9.94 mΩ

3. ENVIRONMENTAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT	
3-1	Heat aging	85 ± 2 °C ,96 hours	No damage	Sample	No damage
				1	Pass
				2	Pass
				3	Pass
				4	Pass
				5	Pass
3-2	Humidity	60 ±2°C, 90-95%RH, 96 hours measurement must be taken within 30 min. after tested	Appearance: No damage	Sample	No damage
				1	Pass
				2	Pass
				3	Pass
				4	Pass
				5	Pass
			Contact resistance: Less than twice of initial	Sample	Contact resistance
				1	10.32 mΩ
				2	10.39 mΩ
				3	10.27 mΩ
				4	10.35 mΩ
			Dielectric strength: To pass Para 1-2	Sample	Dielectric strength
				1	Pass
				2	Pass
				3	Pass
				4	Pass
			5	Pass	



3-3	Temperature cycling	One cycle consists of: 1. -55_{-3}^{+0} °C, 30 min 2. Room temp. 10-15 min 3. 85_{-0}^{+3} °C, 30 min 4. Room temp. 10-15 min Total cycle: 5 cycle	Appearance:	Sample	No damage
			No damage	1	Pass
				2	Pass
				3	Pass
				4	Pass
				5	Pass
			Contact resistance:	Sample	Contact resistance
			Less than twice of initial	1	10.21 mΩ
				2	10.23 mΩ
				3	10.18 mΩ
				4	10.27 mΩ
				5	10.25 mΩ
			Dielectric strength:	Sample	Dielectric strength
			To pass Para 1-2	1	Pass
				2	Pass
3	Pass				
4	Pass				
5	Pass				
3-4	Salt spray	Temperature: $35\pm 3^{\circ}\text{C}$ Solution: $5\pm 1\%$ Spray time: 48 ± 4 hours Measurement must be taken after water rinse	Appearance:	Sample	No damage
			No damage	1	Pass
				2	Pass
				3	Pass
				4	Pass
				5	Pass
			Contact resistance:	Sample	Contact resistance
			Less than twice of initial	1	11.52 mΩ
				2	11.44 mΩ
				3	11.59 mΩ
				4	11.47 mΩ
				5	11.51 mΩ
			Dielectric strength:	Sample	Dielectric strength
			To pass Para 1-2	1	Pass
				2	Pass
3	Pass				
4	Pass				
5	Pass				

3-5	Solder ability	Lead-Free Process: Soldering time: 3 ± 0.5 second Soldering pot: $245 \pm 5^{\circ}\text{C}$	Minimum: 90% of immersed area	Sample	> 90%
				1	Pass
				2	Pass
				3	Pass
				4	Pass
				5	Pass
3-6	Resistance to soldering heat	Lead-Free Process for SMT Type: Refer Reflow temperature profile(4.1)	No damage	Sample	No damage
				1	Pass
				2	Pass
				3	Pass
				4	Pass
				5	Pass

4. Recommended IR Reflow Temperature Profile:

4.1 Using Lead-Free Solder Paste

