瀚荃股份有限公司
CviLux Corporation

RELIABILITY TEST REPORT

TESTITEM: 1.ELECTRICAL
2.MECHANICAL
3.ENV IRONMENTAL

SERIES NO.: CP15 SERIES
(P/N: CP15**M1*R*-NH)

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

DATE OF TESTING: 04 / 30 / 2012

TEST DEPART: R&D TESTER: Clark.Chen

CONTAINT: ATTACHED

CVILUX CORP.
2012.04.30
ISSUED

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	11.01 mΩ
				2	11.25 mΩ
				3	11.15 mΩ
				4	11.22 mΩ
				5	11.08 mΩ
1-2	Dielectric strength	4 Pin: When applied AC1300V 1 minute between adjacent terminal.	No breakdown	Sample	1 minute
				1	Pass
				2	Pass
				3	Pass
				4	Pass
				5	Pass
		3 Pin Omitted Pin No.2: 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	20×10^5 MΩ
				2	25×10^5 MΩ
				3	20×10^5 MΩ
				4	20×10^5 MΩ
				5	25×10^5 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	Plug: More than 0.3 Kgf	Sample	> 0.3 Kgf
				1	1.13 kgf
				2	1.18 kgf
				3	1.17 kgf
				4	1.16 kgf
				5	1.12 kgf
			Receptacle: More than 0.3 Kgf	Sample	> 0.3 Kgf
				1	0.67 kgf
				2	0.73 kgf
				3	0.75 kgf
				4	0.73 kgf
				5	0.76 kgf

2-2	Locking retention force against horizontal pulling	Speed 25±3 mm per minute	4 Pin: More than 1.5 Kgf	Sample	> 1.5 kgf f
				1	4.435 kgf
				2	4.394 kgf
				3	4.385 kgf
				4	4.412 kgf
				5	4.408 kgf
			3 Pin Omitted Pin No.2: More than 1.5 Kgf	Sample	> 1.5 kgf f
				1	4.422 kgf
				2	4.417 kgf
				3	4.440 kgf
				4	4.395 kgf
				5	4.419 kgf
2-3	Durability	Connector shall be subjected to 20 cycles of insertion and withdrawal	Contact resistance: Less than twice of initial	Sample	Contact resistance
				1	12.26 mΩ
				2	12.29 mΩ
				3	12.18 mΩ
				4	12.21 mΩ
				5	12.25 mΩ

3. ENVIRONMENTAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT	
3-1	Heat aging	85 ± 2 ºC ,96 hours	No damage	Sample	No damage
				1	Pass
				2	Pass
				3	Pass
				4	Pass
				5	Pass
3-2	Humidity	60 ±2℃, 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	11.68 mΩ
				2	11.62 mΩ
				3	11.71 mΩ
				4	11.75 mΩ
				5	11.69 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^{+0}_{-3} ℃, 30 min 2. Room temp. 10-15 min 3. 85^{+3}_{-0}℃, 30 min 4. Room temp. 10-15 min Total cycle: 5 cycle	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	12.32 mΩ
				2	12.21 mΩ
				3	12.26 mΩ
				4	12.33 mΩ
				5	12.29 mΩ
			Dielectric strength: To pass Para 1-2	Sample	Dielectric strength
				1	Pass
				2	Pass
				3	Pass
				4	Pass
				5	Pass
3-4	Salt spray	Temperature:35±3°C Solution:5±1% Spray time:48±4 hours Measurement must be taken after water rinse	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	13.23 mΩ
				2	13.28 mΩ
				3	13.31 mΩ
				4	13.38 mΩ
				5	13.32 mΩ
			Dielectric strength: To pass Para 1-2	Sample	Dielectric strength
				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 ± 5°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