瀚荃股份有限公司
CviLux Corporation

RELIABILITY TEST REPORT

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

SERIES NO. : CI11 Series Wire to Board Connector

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

DATE OF TESTING :May.7.2004

TEST DEPART :R&D TESTER : Eisley Huang

CONTAINT : ATTACHED

REVIEWED : APPROVED : David VERIFIED : Eisley 5/7.

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1.ELECTRICAL PERFORMANCE :

	ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT	
1-1	Contact resistance	Dry circuit of DC 20 mV max.,100 mA max.	Less than 20 mΩ	Sample	20 mΩ max.
				1	6.10 mΩ
				2	5.90 mΩ
				3	6.20 mΩ
				4	6.20 mΩ
				5	6.10 mΩ
1-2	Dielectric strength	When applied AC 500V 1 minute between adjacent terminal	No change	Sample	500 V 1 minute
				1	OK
				2	OK
				3	OK
				4	OK
				5	OK
1-3	Insulation resistance	When applied DC 500 V between adjacent terminal or ground	More than 1000 MΩ	Sample	1000 MΩ min.
				1	$3.8x10^4$
				2	$4.0x10^4$
				3	$4.0x10^4$
				4	$4.2x10^4$
				5	$4.0x10^4$

2. MECHANICAL PERFORMANCE :

	ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT		
2-1	Terminal crimp Tensile strength	When crimped AWG#28 size wire	More than 1.3Kgf	#28	#30	#32
				1.72	1.05	0.86
		When crimped AWG#30 size wire	More than 0.8Kgf	1.65	1.12	0.92
				1.68	1.21	0.71
		When crimped AWG#32 size wire	More than 0.6Kgf	1.70	0.96	0.65
				1.82	1.10	0.82
2-2	Terminal insertion force	Insertion speed 25± 3 mm per minute into housing	Less than 200 gram	Sample	200 gram max.	
				1	76 gram	
				2	81 gram	
				3	92 gram	
				4	85 gram	
				5	83 gram	
2-3	Contact retaining force in insulator	Insertion speed 25± 3 mm per minute into housing	More than 400 gram	Sample	400 gram min.	
				1	532 gram	
				2	481 gram	
				3	451 gram	
				4	522 gram	
				5	461 gram	
2-4	Single contact insertion force	Measure force insertion using 0.20mm thickness pin at speed 25± 3 mm per minute	Less than 200 gram	Sample	200 gram max.	
				1	98 gram	
				2	97 gram	
				3	92 gram	
				4	108 gram	
				5	111 gram	

2-5	Single contact withdrawal force	Measure force withdrawal using 0.20mm thickness pin at speed 25± 3 mm per minute	More than 50 gram	Sample	50 gram min.
				1	74 gram
				2	78 gram
				3	80 gram
				4	82 gram
				5	94 gram
2-6	Durability	Connector shall be subjected to 30 cycles of insertion and withdrawal	Contact resistance: Less than twice of Initial	Sample	40 mΩ
				1	6.98 mΩ
				2	6.96 mΩ
				3	7.06 mΩ
				4	7.00 mΩ
				5	7.06 mΩ
2-7	Pin retention force	Push pin form insulator base at speed 25± 3 mm per minute	More than 0.5 Kgf	Sample	0.5 Kgf min.
				1	0.65 Kgf
				2	0.71 Kgf
				3	0.76 Kgf
				4	0.81 Kgf
				5	0.72 Kgf

2-8	Mating & Unmating Force	Insert and withdraw connector at speed 25±3 mm/min.	Sample	2P(Kgf)		15P(Kgf)	
				Mating 2Kgf Max.	Unmating 0.2Kgf Min.	Mating 6Kgf Max.	Unmating 0.6Kgf Min.
			1	0.30	0.67	1.90	3.69
			2	0.35	0.80	1.95	3.75
			3	0.32	0.75	1.98	3.88
			4	0.35	0.82	1.95	3.84
			5	0.38	0.77	2.02	3.88

3.ENVIRONMENTAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT	
3-1	Solderability	Soldering time:5±0.5second Soldering pot:230±5°C	Minimum: 90% of immersed area	Sample	90% min
				1	OK
				2	OK
				3	OK
				4	OK
				5	OK
3-2	Resistance to soldering	Soldering time:5±0.5second Soldering pot:260±5°C	No change	Sample	
				1	OK
				2	OK
				3	OK
				4	OK
				5	OK
3-3	Heat aging	85±2℃,96 hours	No change	Sample	
				1	OK
				2	OK
				3	OK
				4	OK
				5	OK

3-4	Humidity	40±2°C，90-95%RH，96 hours measurement must be taken within 30 min. after tested	Appearance:No damage Contact resistance: Less than twice of Insulation resistance To pass para 1-3	Sample	40mΩ max
				1	7.04 mΩ
				2	7.10 mΩ
				3	7.08 mΩ
				4	6.98 mΩ
				5	7.10 mΩ
					1000 MΩ min.
				1	5.0×10^4
				2	5.2×10^4
				3	4.8×10^4
				4	4.8×10^4
				5	5.2×10^4
3-5	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.	Appearance: No damage Contact resistance: Less than twice of initial	Sample	40mΩ max.
				1	6.82 mΩ
				2	6.92 mΩ
				3	6.95 mΩ
				4	6.98 mΩ
				5	7.02 mΩ
3-6	Salt spray	Temperature:35±3°C Solution:5±1% Spray time:48±4hours Measurement must be taken after water rinse	Appearance: No damage Contact resistance: Less than twice of initial	Sample	40mΩ max
				1	6.95 mΩ
				2	6.96 mΩ
				3	6.96 mΩ
				4	6.95 mΩ
				5	7.05 mΩ