瀚荃股份有限公司
CviLux Corporation

RELIABILITY TEST REPORT

TESTITEM: 1.ELECTRICAL
2.MECHANICAL
3.ENVIRONMENTAL

SERIES NO.: CI22 Series

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

DATE OF TESTING: 7/12/ 06”

TEST DEPART: QA TESTER: Scott.Lien

CONTAINT: ATTACHED

REVIEWED : Jackal APPROVED : Rita VERIFIED : Scott .

1.ELECTRICAL PERFORMANCE：

	ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT	
1-1	Contact resistance	Dry circuit of DC 20mV max.100mA max.	Less than 20 mΩ	Sample	20 mΩ max.
				1	2.96 mΩ
				2	3.00 mΩ
				3	3.02 mΩ
				4	3.07 mΩ
				5	2.93 mΩ
1-2	Dielectric strength	When applied AC 1000V 1 minute between adjacent terminal	No change	Sample	1000 V 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	14×10^5 MΩ
				2	15×10^5 MΩ
				3	14×10^5 MΩ
				4	16×10^5 MΩ
				5	15×10^5 MΩ

2. MECHANICAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT	
2-1	Terminal crimp tensile strength	When crimped AWG# 22 size wire	More than 5.0 Kgf	Sample	> 5.0 Kgf
				1	6.4 Kgf
				2	6.6 Kgf
				3	6.7 Kgf
				4	6.4 Kgf
				5	6.7 Kgf
		When crimped AWG# 24 size wire	More than 3.0 Kgf	Sample	> 3.0 Kgf
				1	4.5 Kgf
				2	4.6 Kgf
				3	5.1 Kgf
				4	4.8 Kgf
				5	4.7 Kgf
		When crimped AWG# 26 size wire	More than 2.0 Kgf	Sample	> 2.0 Kgf
				1	3.1 Kgf
				2	3.2 Kgf
				3	3.3 Kgf
				4	3.2 Kgf
				5	3.4 Kgf

		When crimped AWG# 28 size wire	More than 1.3 Kgf	Sample	>1.3 Kgf
				1	2.4 Kgf
				2	2.5 Kgf
				3	2.6 Kgf
				4	2.4 Kgf
				5	2.6 Kgf
2-2	Terminal insertion force	Insertion speed 25± 3 mm per minute into housing	Less than 600 gram	Sample	< 600 gram
				1	332 gram
				2	318 gram
				3	394 gram
				4	354 gram
				5	367 gram
2-3	Contact retaining force in insulator	Retention speed 25± 3 mm per minute from housing	More than 2.0 Kgf	Sample	> 2.0 Kgf
				1	3.87 Kgf
				2	3.54 Kgf
				3	4.13 Kgf
				4	4.04 Kgf
				5	3.74 Kgf
2-4	Single contact insertion force	Measure force to insertion using 0.64 mm square pin at speed 25±3 mm per minute	700 gram max.	Sample	700 gram max.
				1	412 gram
				2	439 gram
				3	424 gram
				4	457 gram
				5	427 gram
2-5	Single contact withdrawal force	Measure force to insertion using 0.64 mm square pin at speed 25±3 mm per minute	100 gram min.	Sample	100 gram min.
				1	304 gram
				2	322 gram
				3	297 gram
				4	311 gram
				5	345 gram
2-6	Durability	Connector shall be subjected to100 cycles of insertion and withdrawal	Contact resistance: Less than twice of initial	Sample	< twice of initial
				1	2.99 mΩ
				2	3.07 mΩ
				3	3.12 mΩ
				4	3.08 mΩ
				5	3.04 mΩ
2-7	Pin retention force	Push pin from insulator base at speed 25±3mm per minute	More than 1.5 Kgf	Sample	> 1.5 Kgf
				1	3.36 Kgf
				2	3.24 Kgf
				3	3.57 Kgf
				4	3.62 Kgf
				5	3.77 Kgf

2-8	Mating and unmating force	Speed 25±3 mm per minute	2 pin Unit: Kgf Mating force 2.5 max. Unmating force 0.5 min.	Sample	Mating	unmating
				1	1.17	0.85
				2	1.12	0.71
				3	1.10	0.84
				4	1.13	0.76
				5	1.18	0.89
			9 pin Mating force 5.0 max. Unmating force 1.8 min.	Sample	Mating	unmating
				1	4.05	2.85
				2	3.97	2.72
				3	4.15	2.92
				4	4.24	2.89
				5	3.86	2.79
			20 pin Mating force 8.5 max. Unmating force 3.0 min.	Sample	Mating	unmating
				1	7.78	6.28
				2	7.89	6.17
				3	8.12	6.27
				4	7.92	6.54
				5	7.83	6.37

3. ENVIRONMENTAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT	
3-1	Temperature rise	Then carried the rated current	30 ℃ max.	Sample	30 ℃ max.
3-2	Vibration	1.5 mm 10-55-10 HZ/minute each 2 hours for X, Y and Z directions	Appearance: No damage	Sample	No damage
			Discontinuity: 1 micro second max.	Sample	1 micro second max.
3-3	Solderability	Soldering time: 5 ± 0.5 sec. Soldering pot: 230 ± 5℃	Minimum: 90% of immersed area	Sample	90% of Immersed area
				1	Pass
				2	Pass
				3	Pass
				4	Pass
				5	Pass
3-4	Resistance to soldering heat	Soldering time: 5 ±0.5 sec. Soldering pot: 260 ± 5℃	No damage	Sample	No damage
				1	Pass
				2	Pass
				3	Pass
				4	Pass
				5	Pass

3-5	Heat aging	85 ± 2°C , 96 hours	No damage	Sample	No damage
				1	Pass
				2	Pass
				3	Pass
				4	Pass
				5	Pass
3-6	Humidity	40 ± 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	< twice of initial
				1	3.08 mΩ
				2	3.11 mΩ
				3	3.04 mΩ
				4	3.10 mΩ
				5	3.09 mΩ
			Dielectric strength: To pass Para 1-2	Sample	Pass para 1-2
				1	Pass
				2	Pass
				3	Pass
				4	Pass
				5	Pass
3-7	Temperature cycling	One cycle consists of: 1. -55^{+0}_{-3} °C, 30 min 2. Room temp. 10-15 min 3. 85^{+3}_{-0}°C, 30 min 4. Room temp. 10-15 min	Appearance: No damage	Sample	No damage
				1	Pass
				2	Pass
				3	Pass
				4	Pass
				5	Pass
			Contact resistance: Less than twice of initial	Sample	< twice of initial
				1	3.11 mΩ
				2	3.06 mΩ
				3	3.10 mΩ
				4	2.98 mΩ
				5	3.08 mΩ
3-8	Salt spray	Temperature: 35 ± 3°C Solution: 5 ± 1% Spray time: 48 ± 4hours 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	< twice of initial
				1	3.11 mΩ
				2	3.10 mΩ
				3	3.09 mΩ
				4	3.06 mΩ
				5	3.07 mΩ