瀚荃股份有限公司
CviLux Corporation

RELIABILITY TEST REPORT

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

SERIES NO. : 5W1、3W3、7W2、5W5、8W8、9W4、11W1、13W3、13W6、17W5、17W2、21W1、21W4、24W7、25W3、27W2、36W4、43W2、3W3C、C3W3、C5W5、C7W2、C8W8and CHPT Series For Solder Cup Combination Hight Power D-Sub Connector

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

DATE OF TESTING : 11/10/04"

TEST DEPART : QA TESTER :Rita

CONTAINT : ATTACHED

REVIEWED : APPROVED : VERIFIED : Rita .

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1.ELECTRICAL PERFORMANCE :

	ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT	
1-1	Signal contact resistance	Dry circuit of DC 20mV max.,100mA max.	Less than 10 mΩ	Sample	10 mΩ max.
				1	2.55 mΩ
				2	2.61 mΩ
				3	2.58 mΩ
				4	2.68 mΩ
				5	2.52 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 5000 MΩ	Sample	5000 MΩ min.
				1	∞
				2	∞
				3	∞
				4	∞
				5	∞
1-4	High power contact resistance	Dry circuit of DC 20mV max.,100mA max.	Less than 2.7 mΩ	Sample	2.7 mΩ max.
				1	0.50 mΩ
				2	0.53 mΩ
				3	0.55 mΩ
				4	0.52 mΩ
				5	0.52 mΩ

2. MECHANICAL PERFORMANCE :

	ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT	
2-1	Contact retaining force in insulator	Retention speed 25±3 mm per minute from housing	More than 4.5 Kgf	Sample	4.5 Kgf min.
				1	11.3 Kgf
				2	11.7 Kgf
				3	11.5 Kgf
				4	11.6 Kgf
				5	11.4 Kgf
2-2	Signal contact insertion force	Measure force to insertion using ψ1.04 mm test pin at speed 25±3 mm per minute	340 gram max. Per contact	Sample	340 gram max.
				1	233 gram
				2	245 gram
				3	249 gram
				4	229 gram
				5	251 gram
2-3	Signal contact withdrawal force	Measure force to withdrawal using ψ0.99 mm test pin at speed 25±3 mm per minute	28 gram min. Per contact	Sample	28 gram min.
				1	92 gram
				2	90 gram
				3	89 gram
				4	96 gram
				5	90 gram

2-4	High power contact insertion force	Measure force to insertion using plug terminal at speed 25±3 mm per minute	1.2 Kgf max. Per contact	Sample	1.2 Kgf max.	
				1	0.9 Kgf	
				2	0.8 Kgf	
				3	1.0 Kgf	
				4	1.0 Kgf	
				5	0.9 Kgf	
2-5	High power contact withdrawal force	Measure force to withdrawal using plug terminal at speed 25±3 mm per minute	0.2 Kgf min. Per contact	Sample	0.2 Kgf min.	
				1	0.7 Kgf	
				2	0.7 Kgf	
				3	0.8 Kgf	
				4	0.8 Kgf	
				5	0.7 Kgf	
2-6	Mating and unmating force	Speed 25±3 mm per minute	17.0 Kgf max.	Sample	Mating	unmating
				1	14.5	9.9
				2	14.3	10.1
				3	13.9	9.7
				4	13.8	10.6
				5	14.1	9.8
2-7	Durability	Connector shall be subjected to 100 cycles of insertion and withdrawal	Contact resistance: Less than twice of initial for signal contact resistance	Sample	< twice of initial	
				1	2.69 mΩ	
				2	2.78 mΩ	
				3	2.67 mΩ	
				4	2.81 mΩ	
				5	2.90 mΩ	
			Contact resistance: Less than twice of initial for high power contact resistance	Sample	< twice of initial	
				1	0.52 mΩ	
				2	0.55 mΩ	
				3	0.50 mΩ	
				4	0.51 mΩ	
				5	0.54 mΩ	

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 Discontinuity: 1 micro second max.	Sample	No damage
				Sample	1 micro second max.
3-3	Solder ability	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	Heat aging	125 ±2℃ , 96 hours	Appearance: No damage	Sample	No damage
				1	Pass
				2	Pass
				3	Pass
				4	Pass
				5	Pass
3-5	Humidity	40 ±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 for signal contact resistance	Sample	< twice of initial
				1	2.70 mΩ
				2	2.75 mΩ
				3	2.76 mΩ
				4	2.73 mΩ
				5	2.75 mΩ
			Contact resistance: Less than twice of initial for high power contact resistance	Sample	< twice of initial
				1	0.53 mΩ
				2	0.55 mΩ
				3	0.54 mΩ
				4	0.53 mΩ
				5	0.54 mΩ
			Dielectric strength: To pass p are1-2	Sample	Pass para 1-2
				1	Pass
				2	Pass
				3	Pass
				4	Pass
				5	Pass
3-6	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	Sample	No damage
				1	Pass
				2	Pass
				3	Pass
				4	Pass
				5	Pass
			Contact resistance: Less than twice of initial for signal contact resistance	Sample	< twice of initial
				1	2.71 mΩ
				2	2.72 mΩ
				3	2.70 mΩ
				4	2.74 mΩ
				5	2.72 mΩ

			Contact resistance: Less than twice of initial for high power contact resistance	Sample	< twice of initial
				1	0.53 mΩ
				2	0.52 mΩ
				3	0.52 mΩ
				4	0.58 mΩ
				5	0.53 mΩ
3-7	Salt spray	Temperature:35±3°C Solution:5±1% Spray time:48±4hours Measurement must be taken	Appearance: No damage	Sample	No damage
				1	Pass
				2	Pass
				3	Pass
				4	Pass
				5	Pass
			Contact resistance: Less than twice of initial for signal contact resistance	Sample	< twice of initial
				1	2.76 mΩ
				2	2.77 mΩ
				3	2.76 mΩ
				4	2.72 mΩ
				5	2.73 mΩ
			Contact resistance: Less than twice of initial for high power contact resistance	Sample	< twice of initial
				1	0.53 mΩ
				2	0.58 mΩ
				3	0.51 mΩ
				4	0.53 mΩ
				5	0.55 mΩ