



瀚荃股份有限公司  
CviLux Corporation

## RELIABILITY TEST REPORT

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

SERIES NO.: CI18 SERIES

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

DATE OF TESTING: 4/2/2012

TEST DEPART: R&D

TESTER: Hank Wang

CONTAIN: ATTACHED



REVIEWED : David APPROVED : Eisley VERIFIED : Hank .

**1.ELECTRICAL PERFORMANCE :**

	ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT	
1-1	Rated current and voltage		0.5A (AWG#32 ) 30V AC/DC	Sample	0.5A (AWG#32 ) 30V AC/DC
				1	Pass
				2	Pass
				3	Pass
				4	Pass
				5	Pass
1-2	Contact resistance	Dry circuit of DC 20mV max.,10 mA max. Wire resistance shell be removed from the measured value	Less than 20 mΩ	Sample	20 mΩ max
				1	13.12 mΩ
				2	13.05 mΩ
				3	13.11 mΩ
				4	12.94 mΩ
				5	12.58 mΩ
1-3	Dielectric strength	When applied AC 200V 1 minute between adjacent terminal	No breakdown	Sample	200 V 1 minute
				1	Pass
				2	Pass
				3	Pass
				4	Pass
				5	Pass
1-4	Insulation resistance	When applied DC 250 V between adjacent terminal or ground	More than 100 MΩ	Sample	100 MΩ min.
				1	10×10 <sup>5</sup> MΩ
				2	10×10 <sup>5</sup> MΩ
				3	10×10 <sup>5</sup> MΩ
				4	10×10 <sup>5</sup> MΩ
				5	10×10 <sup>5</sup> MΩ

**2. MECHANICAL PERFORMANCE:**

	ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT	
2-1	Wire pull out force	Measure force to insertion using 0.50 mm square pin at speed 25± 3 mm per minute (Perpendicular direction)	More than 0.15 kgf	sample	> 0.15 kgf
				1	0.258 kgf
				2	0.261 kgf
				3	0.255 kgf
				4	0.270 kgf
				5	0.265 kgf
2-2	Pin retention force	Push pin from insulator base at speed 25± 3 mm per minute	More than 0.20 Kgf	Sample	> 0.20 kgf
				1	0.272 kgf
				2	0.243 kgf
				3	0.264 kgf
				4	0.251 kgf
				5	0.269 kgf

ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT			
			Sample	Mating (Max)	Unmating (Min)	
2-3 Mating & Un-mating force	Retention speed 25± 3 mm per minute from wire to wire housing	2P Mating: 1.20 Kgf max Unmating: 0.20 Kgf min	Sample 2Pin			
			1	0.836 Kgf	0.390 Kgf	
			2	0.952 Kgf	0.424 Kgf	
			3	0.948 Kgf	0.418 Kgf	
			4	0.960 Kgf	0.502 Kgf	
		8P Mating: 1.80 Kgf max Unmating: 0.50 Kgf min	Sample 8Pin			
			1	1.195 Kgf	0.878 Kgf	
			2	1.158 Kgf	0.897 Kgf	
			3	1.046 Kgf	0.932 Kgf	
			4	1.132 Kgf	0.912 Kgf	
		12P Mating: 2.20 Kgf max Unmating: 0.7 Kgf min	Sample 12Pin			
			1	1.428 Kgf	1.388 Kgf	
			2	1.581 Kgf	1.452 Kgf	
			3	1.604 Kgf	1.244 Kgf	
			4	1.570 Kgf	1.392 Kgf	
2-8 Durability	Connector shall be subjected to 30 cycles of insertion and withdrawal	Contact resistance: Less than twice of initial	Sample	< twice of initial		
			1	14.12 mΩ		
			2	14.89 mΩ		
			3	14.63 mΩ		
			4	14.58 mΩ		
5	14.22 mΩ					

### 3. ENVIRONMENTAL PERFORMANCE:

ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT		
			Sample		
3-1	Temperature rise	Then carried the rated current	30 °C max.	Sample 30 °C 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: 3 ±0.5 sec. Soldering pot: 245 ±5°C	Minimum: 90% of immersed area	Sample	90% of immersed area
				1	Pass
				2	Pass
				3	Pass
				4	Pass
5	Pass				

ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT		
			Sample	No damage	
3-4	Resistance to soldering heat	Max. Infrared Reflow Soldering temperature & time : 230 °C for 60 sec 260 °C for 10 sec	Appearance: No damage	Sample	No damage
				1	Pass
				2	Pass
				3	Pass
				4	Pass
				5	Pass
3-5	Heat aging	85 ±2°C , 96 hours	Appearance: No damage	Sample	No damage
				1	Pass
				2	Pass
				3	Pass
				4	Pass
				5	Pass
3-6	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	< twice of initial
				1	13.89 mΩ
				2	13.57 mΩ
				3	13.64 mΩ
				4	13.94 mΩ
			Dielectric strength: To pass para 1-2	Sample	Pass para 1-2
				1	Pass
				2	Pass
				3	Pass
4	Pass				
3-7	Temperature cycling	One cycle consists of: 1. -55 <sup>+0</sup> <sub>-3</sub> °C , 30 min. 2. Room temp. 10-15 min. 3. 85 <sup>+3</sup> <sub>-0</sub> °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	13.82 mΩ
				2	13.97 mΩ
				3	13.74 mΩ
				4	13.86 mΩ
			5	13.63 mΩ	

	ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT	
				Sample	No damage
3-8	Salt spray	Temperature: $35 \pm 3^{\circ}\text{C}$ Solution: $5 \pm 1\%$ Spray time: $48 \pm 4$ hours Measurement must be taken after water rinse	Appearance: No damage	1	Pass
				2	Pass
				3	Pass
				4	Pass
				5	Pass
			Contact resistance: Less than twice of initial	Sample	< twice of initial
				1	14.87 m $\Omega$
				2	14.10 m $\Omega$
				3	14.92 m $\Omega$
				4	14.89 m $\Omega$
			5	14.03 m $\Omega$	

11.AMBIENT TEMPERATURE RANGE : -25 to + 85°C