

RELIABILITY TEST REPORT

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

SERIES NO.: CI18 SERIES (V Type)

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

DATE OF TESTING: 2013/6/2

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 ⁵ MΩ
				2	10×10 ⁵ MΩ
				3	10×10 ⁵ MΩ
				4	10×10 ⁵ MΩ
				5	10×10 ⁵ 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	0.221 kgf
				2	0.244 kgf
				3	0.255 kgf
				4	0.211 kgf
				5	0.242 kgf

ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT			
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	Mating (Max)	Unmating (Min)
				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
			15P Mating: 2.50 Kgf max Unmating: 0.85 Kgf min	Sample 12Pin	Mating (Max)	Unmating (Min)
				1	1.013 Kgf	1.214 Kgf
				2	1.126 Kgf	1.096 Kgf
				3	1.190 Kgf	1.008 Kgf
				4	1.070 Kgf	1.134 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	
3-1	Temperature rise	Then carried the rated current	Sample	30 °C max.
3-2	Vibration	1.5 mm 10-55-10 HZ/minute each 2 hours for X, Y and Z directions	Sample	No damage
			Sample	1 micro second max.
3-3	Solder ability	Soldering time: 3 ±0.5 sec. Soldering pot: 245 ±5°C	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 ⁺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	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 ± 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	< twice of initial
				1	14.87 m Ω
				2	14.10 m Ω
				3	14.92 m Ω
				4	14.89 m Ω
5	14.03 m Ω				

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