

RELIABILITY TEST REPORT

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

SERIES NO.: CI21 Series

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

DATE OF TESTING: 1 / 27 / 05

TEST DEPART: QA TESTER: Scott.Lien

CONTAIN: ATTACHED

REVIEWED : Jackal APPROVED : Rita VERIFIED : Scott.Lien .

1.ELECTRICAL PERFORMANCE :

	ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT	
				Sample	
1-1	Contact resistance	Dry circuit of DC 20 mV max.100 mA max.	Less than 20 mΩ	Sample	20 mΩ max.
				1	3.20 mΩ
				2	3.03 mΩ
				3	3.15 mΩ
				4	3.32 mΩ
				5	3.38 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	13×10 ⁵ MΩ
				4	12×10 ⁵ MΩ
				5	13×10 ⁵ MΩ

2. MECHANICAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT	
				Sample	
2-1	Terminal crimp tensile strength	When crimped AWG# 24 size wire	More than 3.0 Kgf	Sample	> 3.0 Kgf
				1	4.25 Kgf
				2	3.98 Kgf
				3	4.16 Kgf
				4	4.03 Kgf
				5	4.22 Kgf
		When crimped AWG# 26 size wire	More than 2.0 Kgf	Sample	> 2.0 Kgf
				1	3.26 Kgf
				2	3.21 Kgf
				3	3.42 Kgf
				4	3.09 Kgf
		When crimped AWG# 28 size wire	More than 1.3 Kgf	Sample	> 1.3 Kgf
				1	2.56 Kgf
				2	2.46 Kgf
				3	2.38 Kgf
4	2.46 Kgf				
5	2.19 Kgf				

2-2	Terminal insertion force	Insertion speed 25± 3 mm per minute into housing	Less than 700 gram	Sample	< 700 gram
				1	359 gram
				2	372 gram
				3	379 gram
				4	366 gram
				5	358 gram
2-3	Contact retaining force in insulator	Retention speed 25± 3 mm per minute from housing	More than 1.5 Kgf	Sample	> 1.5 Kgf
				1	3.66 Kgf
				2	3.84 Kgf
				3	3.88 Kgf
				4	3.25 Kgf
				5	3.53 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	320 gram
				2	296 gram
				3	321 gram
				4	333 gram
				5	288 gram
2-5	Single contact withdrawal force	Measure force to withdrawal using 0.64 mm square pin at speed 25±3 mm per minute	100 gram min.	Sample	100 gram min.
				1	322 gram
				2	287 gram
				3	305 gram
				4	325gram
				5	317 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	3.75 mΩ
				2	3.19 mΩ
				3	3.33 mΩ
				4	3.54 mΩ
				5	3.36 mΩ
2-7	Pin retention force	Push pin from insulator base at speed 25±3mm per minute	More than 1.0 Kgf	Sample	> 1.0 Kgf
				1	2.03 Kgf
				2	1.88 Kgf
				3	2.09 Kgf
				4	2.12 Kgf
				5	2.00 Kgf

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
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
3-5	Heat aging	85 ± 2 , 96 hours	No damage	Sample	No damage
				1	Pass
				2	Pass
				3	Pass
				4	Pass
3-6	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
			Contact resistance: Less than twice of initial	Sample	< twice of initial
				1	3.52 mΩ
				2	3.29 mΩ
				3	3.42 mΩ
				4	3.43 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} , 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	Sample	< twice of initial
				1	3.28 mΩ
				2	3.38 mΩ
				3	3.34 mΩ
				4	3.27 mΩ
				5	3.46 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	3.45 mΩ
				2	3.43 mΩ
				3	3.45 mΩ
				4	3.38 mΩ
				5	3.39 mΩ