

RELIABILITY TEST REPORT

TESTITEM : 1.ELECTRICAL  
2.MECHANICAL  
3.ENVIRONMENTAL

SERIES NO. : CI06 Series Latch Type Wire to Board Conn.

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

DATE OF TESTING : 2005/10/04

TEST DEPART :R&D

TESTER : Sandy.kuan

CONTAIN : ATTACHED



REVIEWED : Alex APPROVED : David VERIFIED : Sandy .

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	5.00mΩ
				2	4.78mΩ
				3	4.85mΩ
				4	4.98mΩ
				5	4.75mΩ
1-2	Dielectric strength	When applied AC 800V 1 minute between adjacent terminal	No change	Sample	800 V 1 minute
				1	OK
				2	OK
				3	OK
				4	OK
				5	OK
1-3	Insulation resistance	When applied DC 500 V between adjacent terminal or ground	More than 1000 MΩ	Sample	1000 MΩ min.
				1	$3.0 \times 10^5$
				2	$3.7 \times 10^5$
				3	$3.0 \times 10^5$
				4	$3.1 \times 10^5$
				5	$3.8 \times 10^5$

2. MECHANICAL PERFORMANCE :

	ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT	
				AWG #24	AWG #30
2-1	Terminal crimp Tensile strength	When crimped AWG#24 size wire When crimped AWG#30 size wire	AWG #24: 3.0 Kgf Min. AWG #30: 0.8 Kgf Min.	AWG #24	AWG #30
				4.28Kgf	1.40Kgf
				4.39Kgf	1.38Kgf
				4.44Kgf	1.37Kgf
				4.63Kgf	1.30Kgf
2-2	Terminal insertion force	Insertion speed $25 \pm 3$ mm per minute into housing	Less than 600gram	Sample	600gram max.
				1	280 gram
				2	300 gram
				3	240 gram
				4	310 gram
				5	320 gram
2-3	Contact retaining force in insulator	Insertion speed $25 \pm 3$ mm per minute into housing	More than 1.5 Kgf	Sample	1.5 Kgf min.
				1	2.72Kgf
				2	2.77Kgf
				3	2.77Kgf
				4	2.74Kgf
				5	2.56Kgf
2-4	Single contact insertion force	Measure force insertion using 0.50mm square pin at speed $25 \pm 3$ mm per minute	Less than 700gram	Sample	700 gram max.
				1	290 gram
				2	260 gram
				3	270 gram
				4	290 gram
				5	250 gram

ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT		
			Sample		
2-5	Single contact withdrawal force	Measure force withdrawal using 0.50mm square pin at speed 25± 3 mm per minute	More than 100gram	Sample	100 gram min.
				1	240 gram
				2	260 gram
				3	230 gram
				4	260 gram
				5	220 gram
2-6	Durability	Connector shall be subjected to 100 cycles of insertion and withdrawal	Contact resistance: Less than twice of Initial	Sample	
				1	5.10 mΩ
				2	5.15 mΩ
				3	5.08 mΩ
				4	5.25 mΩ
				5	5.10 mΩ
2-7	Pin retention force	Push pin form insulator base at speed 25± 3 mm per minute	More than 1.0Kgf	Sample	1.0 Kgf min.
				1	5.36 Kgf
				2	5.57 Kgf
				3	6.43 Kgf
				4	5.12 Kgf
				5	5.51 Kgf
2-8	Locking force (Ref)	While withdrawing plug & receptacle without terminal at speed 25±3mm per minute (Test 16 Pin)	More than 5.0Kgf	Sample	5.0 Kgf Min.
				1	8.94 Kgf
				2	8.16 Kgf
				3	8.94 Kgf
				4	8.58 Kgf
				5	8.61 Kgf
				Sample	5.0 Kgf Min.
				1	7.76 Kgf
				2	6.39 Kgf
		3	7.79 Kgf		
		4	6.63 Kgf		
		5	6.33 Kgf		
		While withdrawing plug & receptacle without terminal at speed 25±3mm per minute (Test 2 Pin)	More than 1.0Kgf	Sample	1.0 Kgf Min.
				1	2.86 Kgf
				2	2.55 Kgf
				3	2.03 Kgf
				4	2.76 Kgf
				5	2.63 Kgf
Connector with latch shall be subjected to 500 cycles of insertion and withdrawal (Test 2 Pin)	More than 1.0Kgf	Sample	1.0 Kgf Min.		
		1	1.42 Kgf		
		2	1.24 Kgf		
		3	1.76 Kgf		
		4	1.89 Kgf		
		5	1.94 Kgf		



3. ENVIRONMENTAL PERFORMANCE:

ITEM	TEST CONDITION	REQUIREMENT	TEST RESULT	
			Sample	
3-1 Solder ability	Soldering time: $5 \pm 0.5$ second Soldering pot: $230 \pm 5^\circ\text{C}$	Minimum: 90% of immersed area	Sample	90% min
			1	OK
			2	OK
			3	OK
			4	OK
			5	OK
3-2 Resistance to soldering	Soldering time: $5 \pm 0.5$ second Soldering pot: $260 \pm 5^\circ\text{C}$	No change	Sample	No damage
			1	OK
			2	OK
			3	OK
			4	OK
			5	OK
3-3 Heat aging	$85 \pm 2^\circ\text{C}$ , 96 hours	No change	Sample	No damage
			1	OK
			2	OK
			3	OK
			4	OK
			5	OK
3-4 Humidity	$40 \pm 2^\circ\text{C}$ , 90-95%RH, 96 hours measurement must be taken within 30 min. after tested	Appearance : No damage Contact resistance: Less than twice of initial	Sample	$40\text{m}\Omega$ max
			1	7.4 m $\Omega$
			2	7.9 m $\Omega$
			3	7.2 m $\Omega$
			4	7.2 m $\Omega$
			5	7.5 m $\Omega$
		Dielectric strength: To pass area 8-3	Sample	800V 1minute
			1	OK
			2	OK
			3	OK
			4	OK
3-5 Temperature cycling	One cycle consists of: (1)-55 +0/-3 $^\circ\text{C}$ , 30 min. (2)Room temp. 10-15 min. (3) $85 +3/-0^\circ\text{C}$ , 30 min. (4)Room temp. 10-15 min.	Appearance: No damage Contact resistance: Less than twice of initial	Sample	$40\text{m}\Omega$ max.
			1	9.2 m $\Omega$
			2	9.4 m $\Omega$
			3	9.5 m $\Omega$
			4	9.8 m $\Omega$
			5	9.6 m $\Omega$
3-6 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 Contact resistance: Less than twice of initial	Sample	$40\text{m}\Omega$ max
			1	8.5 m $\Omega$
			2	8.6 m $\Omega$
			3	8.7 m $\Omega$
			4	8.5 m $\Omega$
			5	8.9 m $\Omega$