

ENGINEERING DEPT.		PRODUCT SPECIFICATION CI10 Series Right Angle Type Connector	SPEC.NO.:	SPCI107A
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1. SCOPE:

This specification contains the test requirement of subject connectors when tested under the condition and procedure with terminals crimped on the specified maximum size wire

2. APPLICABLE STANDARDS:

MIL - STD - 202	Methods for test of connectors for electronic equipment
MIL - STD - 1344	Test methods for electrical connectors
SS-00254	Test methods for electronic components ,LEAD-FREE soldering Part design standards

3. APPLICABLE SERIES NO: For CI10 Series

Header:CI10\*\*PMHK0  
Housing:A2010H00-\*\*P(JOWLE)  
Terminal:A2006TOP-\*\*(JOWLE)

4. SHAPE, CONSTRUCTION AND DIMENSIONS

See attached drawings

5. MATERIALS

See attached drawings



REVIEWED : David    APPROVED : Clark    VERIFIED : Steven .

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#### 6. ELECTRICAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT
6.1	Rated current and voltage		Rated Voltage: 300V AC/DC Rated Current: 3A (AWG#22) 2A (AWG#24) 1A (AWG#26) 0.7A (AWG#28)
6.2	Contact resistance	Dry circuit of DC 20 mV max. , 10 mA max.	Less than 10 mΩ
6.3	Dielectric strength	When applied AC 800 V 1 minute between adjacent terminal	No change
6.4	Insulation resistance	When applied DC 500 V between adjacent terminal or ground	More than 1000 MΩ
6.5	Contact resistance on Crimped Portion	Crimp the maximum applicable wire on to the terminal, measure by dry circuit 20mV MAX., 10mA Wire Length : 50mm(AWG#22)	Less than 10 mΩ

#### 7. MECHANICAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT
7.1	Wire size	Specified wire size	Accepts AWG#22~#28
7.2	Terminal crimp Tensile strength	When crimped AWG#22 size wire When crimped AWG#24 size wire When crimped AWG#26 size wire When crimped AWG#28 size wire	More than 4.0 Kgf More than 3.0 Kgf More than 1.8 Kgf More than 1.1 Kgf
7.3	Terminal insertion force	Insertion speed 25± 3 mm per minute into housing	Less than 1.2 Kgf
7.4	Contact retaining force in insulator	Retention speed 25± 3 mm per minute from housing	More than 1.5 Kgf
7.5	Pin retention force	Push pin from insulator base at speed 25± 3 mm per minute	More than 1.0 Kgf
7.6	Durability	Connector shall be subjected to 30 cycles of insertion and withdrawal	Contact resistance: Less than 20 mΩ

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#### 8. ENVIRONMENTAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT
8.1	Temperature rise	Then carried the rated current	30°C max.
8.2	Vibration	1.5 mm 10-55-10 HZ / minute each 2 hours for X , Y and Z directions (Based upon MIL-STD-202 Method 201)	Appearance: No damage Contact resistance: Less than 20 mΩ Discontinuity: 1 micro second max.
8.3	Shock	50G, 3 strokes in each X,Y,Z axials (Based upon JIS C0041)	Appearance: No damage Contact resistance: Less than 20 mΩ Discontinuity: 1 micro second max.
8.4	Heat aging	85 ± 2°C , 96±4 hours (Based upon JIS C5402 7.8)	No damage Contact resistance: Less than 20 mΩ
8.5	Cold aging	-25 ± 3°C , 96±4 hours (Based upon JIS C5402 7.9)	No damage Contact resistance: Less than 20 mΩ
8.6	Humidity	40 ± 2°C , 90-95% RH , 240 hours measurement must be taken within 30 min. after tested (Based upon MIL-STD-202 Method 103)	Appearance: No damage Contact resistance: Less than 20 mΩ Insulation resistance More than 500 MΩ Dielectric strength: To pass para 6-3
8.7	Temperature cycling	5 cycle consists of : (1) +25°C , 3 min. (2) -25°C , 30 min (1) +25°C , 3 min. (2) +85°C , 30 min (Based upon JIS C5402 7.2)	Appearance: No damage Contact resistance: Less than 20 mΩ Insulation resistance More than 500 MΩ Dielectric strength: To pass para 6-3

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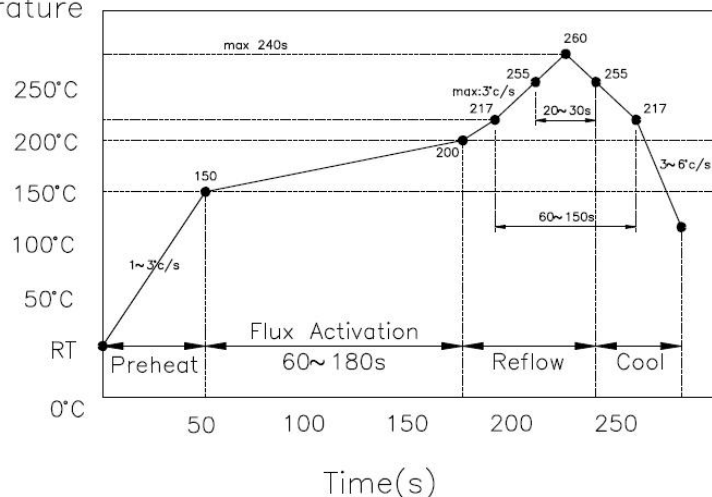
	ITEM	TEST CONDITION	REQUIREMENT
8.8	Salt spray	Temperature: $35 \pm 2^{\circ}\text{C}$ Solution: $5 \pm 1\%$ Spray time: $48 \pm 4$ hours Measurement must be taken after water rinse (Based upon JIS C5402 7.1) (Based upon MIL-STD-202 Method 101)	No damage Contact resistance: Less than $20\text{ m}\Omega$
8.9	Solder ability	Soldering time: 3 ~ 5 seconds Soldering pot: $245 \pm 5^{\circ}\text{C}$	Minimum: 95% of immersed area
8.10	Hand Soldering Method	Use a soldering iron that has a sufficient head capacity and high stability of temperature. The tip of the iron should be shaped so as not to touch the part body directly. Temperature : $380 \pm 5^{\circ}\text{C}$ 3~5sec.	No damage
8.11	Reflow soldering method	The specimen shall be subjected to a reflow soldering of the condition shown in the graph below. After the test, the appearance shall be observed. Material of testing PCB shall be glass base epoxy resin and its thickness shall be 1.6mm Refer Reflow temperature profile(10.1)	No damage

9. AMBIENT TEMPERATURE RANGE:  $-25$  to  $+85^{\circ}\text{C}$

10. Reflow soldering method:

#### 10.1 Refer Reflow temperature profile

Temperature



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# 11. Mating and Un-mating Force:

## 11.1 WITHOUT LATCH TYPE HOUSING

PIN No.	Mating (kgf max.)	Un-mating (kgf min.)	Un-mating(10th) (kgf min.)	Un-mating(30th) (kgf min.)
2	0.80	0.20	0.16	0.16
3	1.20	0.30	0.24	0.24
4	1.60	0.40	0.32	0.32
5	2.00	0.50	0.40	0.40
6	2.40	0.60	0.48	0.48
7	2.80	0.70	0.56	0.56
8	3.20	0.80	0.64	0.64
9	3.60	0.90	0.72	0.72
10	4.00	1.00	0.80	0.80
11	4.40	1.10	0.88	0.88
12	4.80	1.20	0.96	0.96
13	5.20	1.30	1.04	1.04
14	5.60	1.40	1.12	1.12
15	6.00	1.50	1.20	1.20
16	6.40	1.60	1.28	1.28