

<b>ENGINEERING DEPT.</b>		<b>PRODUCT SPECIFICATION</b> <b>For CI46 Series Connector System</b>	<b>SPEC.NO.: SPCI090C</b>
<b>REVISIONS</b>	<b>ECNT120150</b>		<b>PAGE: 1/6</b>

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  
EIA - 364                                Test methods for electrical connectors

3. APPLICABLE SERIES NO: CI46 SERIES

4. SHAPE, CONSTRUCTION AND DIMENSIONS

See attached drawings

5. MATERIALS

See attached drawings

6. ACCOMMODATED P.C.BOARD

6.1 Thickness: 1.6mm(.063")

6.2 P.C. Board Layout: See attached drawings



REVIEWED : Eisley    APPROVED : Sun    VERIFIED : Jessie .

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**7. ELECTRICAL PERFORMANCE:**

	ITEM	TEST CONDITION	REQUIREMENT
7.1	Rated current and voltage		1A 125V AC (r.m.s.)
7.2	Contact resistance	Dry circuit of DC 20 mV max. , 100 mA max.(JIS C5402 5.4)	Less than 30 mΩ
7.3	Dielectric strength	When applied AC 500 V 1 minute between adjacent terminal(JIS C5402 5.2/MIL-STD 202 method 301 )	No change
7.4	Insulation resistance	When applied DC 100 V between adjacent terminal or ground (JIS C5402 5.2/MIL-STD 202 method 302)	More than 500 MΩ

**8. MECHANICAL PERFORMANCE:**

	ITEM	TEST CONDITION	REQUIREMENT
8.1	Wire size	Specified wire size	Accepts AWG#26~#32
8.2	Terminal crimp Tensile strength	When crimped AWG#26 size wire When crimped AWG#28 size wire When crimped AWG#30 size wire When crimped AWG#32 size wire	More than 1.2 Kgf More than 1.0 Kgf More than 0.5 Kgf More than 0.3 Kgf
8.3	Terminal insertion force	Insertion speed 25± 3 mm per minute into housing	Less than 300 gram
8.4	Contact retaining force in insulator	Retention speed 25± 3 mm per minute from housing	More than 500 gram
8.5	Single contact insertion force	Measure force to insertion using 0.50 mm square pin at speed 25± 3 mm per minute	300 gram max.
8.6	Single contact withdrawal force	Measure force to withdrawal using 0.50 mm square pin at speed 25± 3 mm per minute	60 gram min.
8.7	Pin retention force	Push pin from insulator base at speed 25± 3 mm per minute	<b>More than 0.3 Kgf</b>
8.8	Mating & Un-mating force	Insert and withdraw connector at speed of 25 ± 3 mm per minute	See Item 11
8.9	Durability	Connector shall be subjected to 30 cycles of insertion and withdrawal (repeatedly by the rate of 10 cycles per minute)	Contact resistance: Less than twice of initial

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**9. ENVIRONMENTAL PERFORMANCE:**

	ITEM	TEST CONDITION	REQUIREMENT
9.1	Temperature rise	Then carried the rated current (UL 498)	30°C max.
9.2	Vibration	1.5 mm 10-55-10 HZ / minute each 2 hours for X , Y and Z directions (MIL-STD-202,method 201)	Appearance: No damage Discontinuity: 1 micro second max.
9.3	Solderability	Soldering time: 3 ± 0.5 second Soldering pot: 245 ± 5°C	Minimum: 90% of immersed area
9.4	Resistance to soldering heat	Refer Reflow temperature profile(12.1)	No damage
9.5	Heat aging	85± 2°C , 96 hours(JIS C60068-2-2/MIL-STD-202,method 108)	No damage Contact resistance: Less than twice of initial
9.6	Humidity	60 ± 2°C , 90-95% RH , 96 hours measurement must be taken within 30 min. after tested (JIS C0020/MIL-STD-202, method 103)	Appearance: No damage Contact resistance: Less than twice of initial Insulation resistance: To pass Para 7-4
9.7	Temperature cycling	Five cycle consists of :(JIS C0025) (1)-55 <sup>+0</sup> / <sub>-3</sub> °C , 30 min. (2)Room temp. 10-15 min. (3)105 <sup>+3</sup> / <sub>-0</sub> °C , 30 min. (4)Room temp. 10-15 min.	Appearance: No damage Contact resistance: Less than twice of initial

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	ITEM	TEST CONDITION	REQUIREMENT
9.8	Salt spray	<p>Temperature: <math>35 \pm 3^{\circ}\text{C}</math></p> <p>Solution: <math>5 \pm 1\%</math></p> <p>Spray time: <math>48 \pm 4</math> hours (Stamping before plated)</p> <p>Spray time: <math>24 \pm 4</math> hours (Stamping after plated)</p> <p>Mate connectors and expose to the following salt mist conditions. Upon completion of the exposure period, salt deposits shall be removed by a gentle wash or dip in running water and dried naturally, after which the specified measurements shall be performed.</p> <p>The specimens shall be suspended from the top using waxed twine, string or nylon thread.</p> <p>The test only define the plating area, without plating area (as copper cross section) will not be defined.</p> <p>(EIA 364-26B / MIL-STD-202 Method 101)</p>	<p>Appearance: No damage</p> <p>Contact resistance: Less than twice of initial</p>

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

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11.Mating and Un-mating Force:

PIN No.	Mating(kgf max.)	Un-mating(kgf )min.)
2	1.50	0.10
3	1.80	0.20
4	2.40	0.30
5	2.80	0.30
6	3.00	0.40
7	3.20	0.40
8	3.40	0.50
9	3.60	0.50
10	3.80	0.60
11	4.00	0.60
12	4.20	0.70
13	4.40	0.70
14	4.60	0.80
15	4.80	0.80
16	5.00	0.90
17	5.20	0.90
18	5.50	1.00
19	5.70	1.00
20	6.50	1.10

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12. Recommended IR Reflow Temperature Profile:

12.1 Using Lead-Free Solder Paste

