



ENGINEERING DEPT.	PRODUCT SPECIFICATION	SPEC.NO.: SPCI093E
REVISIONS:ECNT120150	For CI43 Series Connector System	PAGE: 1/6

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: **CI43 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 200V AC (r.m.s.) (AWG#28, AWG#30) 0.8A 200V AC (r.m.s.) (AWG#32)
7.2	Contact resistance	Dry circuit of DC 20 mV max. , 100 mA max. (EIA-364-23)	Less than 55mΩ(Initial), 20mΩ Max. change allowed
7.3	Dielectric strength	When applied AC 300 V 1 minute between adjacent terminal (EIA-364-20)	No discharge, flashover or breakdown Current leakage: 1mA Max.
7.4	Insulation resistance	When applied DC 500 V between adjacent terminal or ground (EIA-364-21)	More than 100 MΩ

8. MECHANICAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT
8.1	Wire size	Specified wire size	Accepts AWG#28~#32
8.2	Terminal crimp Tensile strength	When crimped AWG#28 size wire When crimped AWG#30 size wire When crimped AWG#32 size wire	More than 1.0 Kgf More than 0.5 Kgf More than 0.3 Kgf
8.3	Terminal retaining force	Retention speed 25±3 mm per minute into housing	Less than 500 gram
8.4	Mating & Un-mating force	Solder the header connector to the test board, then place the board and housing initial and mating & un-mating Operation speed: 25.4±3mm/min Measure the force required to mating & un-mating connector. (EIA-364-13)	See Item 11
8.5	Pin retention force	Push pin from insulator base at speed 25± 3 mm per minute	More than 0.25 Kgf
8.6	Durability	The sample should be mounted on the tester and fully mated and unmated 50 cycles specified at the rate of 25.4±3mm/min. (EIA-364-09)	Contact resistance: To pass Para 7.2

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9. ENVIRONMENTAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT
9.1	Temperature rise	Mate connector: measure the temperature rise at rated current after 1.0A/Power contact. The ambient condition is still air at 25°C (UL 498)	The temperature rise above ambient shall not exceed 30°C
9.2	Vibration	The electrical load condition shall be 100mA max. for all contacts. 1.5 mm 10-55-10 HZ / minute each 2 hours for X , Y and Z directions (EIA-364-28)	Appearance: No damage Discontinuity: 1 micro second max.
9.3	Solder ability	Subject the test area of contacts into the flux for 5~10Sec. And then into solder bath. Soldering time: 3 ± 0.5 second Soldering temperature: $245 \pm 5^{\circ}\text{C}$ (EIA-364-52)	Minimum: 90% of immersed area
9.4	Resistance to soldering heat	Refer Reflow temperature profile(12.1)	No damage
9.5	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 : $380 \pm 10^{\circ}\text{C}$ 3s	No damage
9.6	Heat aging	$85 \pm 2^{\circ}\text{C}$, 96 hours (EIA-364-17)	Appearance: No damage Contact resistance: To pass Para 7.2 Dielectric strength: To pass Para 7.3 Insulation resistance: To pass Para 7.4
9.7	Humidity	$40 \pm 2^{\circ}\text{C}$, 90-95% RH , 96 hours measurement must be taken within 30 min. after tested (EIA-364-31)	Appearance: No damage Contact resistance: To pass Para 7.2 Dielectric strength: To pass Para 7.3 Insulation resistance: To pass Para 7.4

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	ITEM	TEST CONDITION	REQUIREMENT
9.8	Temperature cycling	5 cycle consists of : (1)-40 ⁺⁰ ₋₃ °C , 30 min. (2)Room temp. 10-15 min. (3)85 ⁺⁰ ₋₃ °C , 30 min. (4)Room temp. 10-15 min. (EIA-364-32)	Appearance: No damage Contact resistance: To pass Para 7.2 Dielectric strength: To pass Para 7.3 Insulation resistance: To pass Para 7.4
9.9	Salt spray	Temperature: 35 ± 3°C Solution: 5 ± 1% Spray time: 48 ± 4 hours (Stamping before plated) Spray time: 24 ± 4 hours (Stamping after plated) 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. The specimens shall be suspended from the top using waxed twine, string or nylon thread. The test only define the plating area, without plating area (as copper cross section) will not be defined. (EIA 364-26B)	Appearance: No damage Contact resistance: Less than twice of initial

10. AMBIENT TEMPERATURE RANGE: -40 to + 85 °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	1.75	0.15
4	2.00	0.20
5	2.25	0.25
6	2.50	0.30
7	2.75	0.35
8	3.00	0.40
9	3.25	0.45
10	3.50	0.50
11	3.75	0.55
12	4.00	0.60
13	4.25	0.65
14	4.50	0.70
15	4.75	0.75
18	5.50	0.90
20	6.00	1.00
25	7.25	1.25
30	8.50	1.50

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12. Recommended IR Reflow Temperature Profile:

12.1 Using Lead-Free Solder Paste

