

ENGINEERING DEPT.		PRODUCT SPECIFICATION For 0.80mm Pitch	SPEC.NO.: SPCI078D
REVISIONS	ECNT120150		Wire to Board Connector of CI18 System
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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
EIA - 364	Test methods for electrical connectors
SS-00254	Test methods for electronic components ,LEAD-FREE soldering Part design standards

3. APPLICABLE SERIES NO.: CI18 Series

4. SHAPE, CONSTRUCTION AND DIMENSIONS

See attached drawings

5. MATERIALS

See attached drawings

6. ACCOMMODATED P.C.BOARD

6.1 Thickness: 1.6 mm (.063")
6.2 P.C. Board Layout: See attached drawings

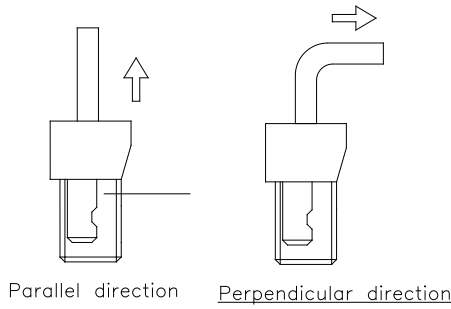
REVIEWED : Eisley APPROVED : Sun VERIFIED : Michelle .

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7. ELECTRICAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT
7.1	Rated current and voltage		0.5A AC /DC (AWG#32) 0.2A AC /DC (AWG#36) 30V/DC
7.2	Contact resistance	Dry circuit of DC 20 mV max. , 10 mA max. (EIA-364-23)	<u>Initial:</u> Less than 20 mΩ <u>After tests:</u> Less than 40 mΩ
7.3	Dielectric strength	When applied AC 1 minute between adjacent terminal (EIA-364-20)	<u>Initial: AC 200 V</u> No change <u>After tests: AC 100V</u> No change
7.4	Insulation resistance	When applied DC 250 V between adjacent terminal or ground (EIA-364-21)	More than 100 MΩ

8. MECHANICAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT
8.1	Wire pull out force	Measure force to insertion using 0.50 mm square pin at speed 25± 3 mm per minute  Parallel direction Perpendicular direction	<u>Parallel direction:</u> AWG#32 More than 0.60 Kgf AWG#36 More than 0.40 Kgf <u>Perpendicular direction:</u> AWG#32 / AWG#36 More than 0.15 Kgf
8.2	Pin retention force	Push pin from insulator base at speed 25± 3 mm per minute	More than 0.20 Kgf
8.3	Mating & Un-mating force	Insert and withdraw connector at speed of 25 ± 3 mm per minute	See Item 11
8.4	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	30°C max.
9.2	Vibration	1.5 mm 10-55-10 HZ / minute each 2 hours for X , Y and Z directions	Appearance: No damage Discontinuity: 1 micro second max.
9.3	Solder ability	Soldering time: 3 ± 0.5 second Soldering pot: 245 ± 5 °C	Minimum: 90% of immersed area
9.4	Resistance to soldering heat	Lead-Free Process for SMT Type: Refer Reflow temperature profile(12.1)	Appearance: No damage Contact resistance: To pass para 7-2
9.5	Heat aging	85 ± 2 °C , 96 hours	Appearance: No damage Contact resistance: To pass Para 7.2 Dielectric strength: To pass Para 7.3 Insulation resistance: To pass Para 7.4
9.6	Cold aging	-40 ± 2 °C , 96 hours	Appearance: No damage Contact resistance: To pass Para 7.2
9.7	Humidity	60 ± 2 °C , 90-95% RH , 96 hours measurement must be taken within 30 min. after tested	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	Five cycle consists of : (1) $-55 \begin{smallmatrix} +0 \\ -3 \end{smallmatrix} ^\circ\text{C}$, 30 min. (2) Room temp. 10-15 min. (3) $85 \begin{smallmatrix} +3 \\ -0 \end{smallmatrix} ^\circ\text{C}$, 30 min. (4) Room temp. 10-15 min.	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: $35 \pm 3^\circ\text{C}$ Solution: $5 \pm 1\%$ 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 / MIL-STD-202 Method 101)	Appearance: No damage Contact resistance: 40m Ω Max.

10. AMBIENT TEMPERATURE RANGE: -25 to + 85°C

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11. Mating and Un-mating Force:

PIN No.	Mating(kgf max.)	Un-mating(kgf)min.)	30th Un-mating(kgf)min.)
2	1.20	0.20	0.08
3	1.30	0.25	0.12
4	1.40	0.30	0.16
5	1.50	0.35	0.20
6	1.60	0.40	0.24
7	1.70	0.45	0.28
8	1.80	0.50	0.32
9	1.90	0.55	0.36
10	2.00	0.60	0.40
12	2.20	0.70	0.48
14	2.40	0.80	0.57
15	2.50	0.85	0.61
16	2.70	0.90	0.65
17	2.80	0.95	0.69
20	3.10	1.10	0.82
22	3.30	1.20	0.90

12. Recommended IR Reflow Temperature Profile:

12.1 Using Lead-Free Solder Paste

