瀚荃股份有限公司
CviLux Corporation

CVILUX
2020.08.20
ISSUED

ENGINEERING DEPT.		PRODUCT SPECIFICATION	SPEC.NO.: SPCI117B
REVISIONS	ECNT120150	For CI16 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: CI16 Series

4. SHAPE, CONSTRUCTION AND DIMENSIONS
See attached drawings

5. MATERIALS
See attached drawings

6. ACCOMMODATED P.C.BOARD
6.1 Thickness: 0.6 mm (.024″) ~ 1.2 mm (.047″),1.6mm(.063”)
6.2 P.C. Board Layout: See attached drawings

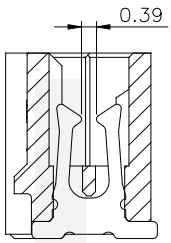
REVIEWED : Eisley APPROVED : Sun VERIFIED : Michelle .

7. ELECTRICAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT
7.1	Rated current and voltage		1.0A AC (r.m.s.)/DC (AWG#28) 125V AC (r.m.s.)/DC
7.2	Contact resistance	Dry circuit of DC 20 mV max. , 100 mA max.(JIS C5402 5.4)	Less than 20 mΩ
7.3	Dielectric strength	When applied AC 500 V 1 minute between adjacent terminal(JIS C5402 5.2/MIL-STD 202 method 302 Cond. B)	No change
7.4	Insulation resistance	When applied DC 500 V between adjacent terminal or ground (JIS C5402 5.2/MIL-STD 202 method 301)	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 1.3 Kgf More than 0.8 Kgf More than 0.6 Kgf
8.3	Terminal insertion force in insulator	Insertion speed 25± 3 mm per minute into housing	Less than 0.60 Kgf
8.4	Terminal retaining force in insulator	Retention speed 25± 3 mm per minute from housing	More than 0.60 Kgf
8.5	Pin retention force	Push pin from insulator base at speed 25± 3 mm per minute	More than 0.30 Kgf
8.6	Mating & Un-mating force	Insert and withdraw connector at speed of 25 ± 3 mm per minute	See Item 11
8.7	Locking force	While withdrawing plug & receptacle without terminal at speed 25±3 mm per minute	2P More than 1.5 Kgf 3P~6P: More than 2 Kgf 7P~20P: More than 3 Kgf

	ITEM	TEST CONDITION	REQUIREMENT
8.8	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
8.9	Diagonal pulling test	The product should match three requirements after 5 cycles of insertion and withdrawal (mating and un-mating) test. We will withdrawal the housing by pulling the wire toward four directions to left, right, up and down at maximum angel of 60° for 5 times. 	Contact resistance: Less than 1.5 times of the initial value. Temperature rise: 30°C max. The dimension of the open window of plug contact on wafer side should be less than 0.39mm.

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 201A)	Appearance: No damage Discontinuity: 1 micro second max.
9.3	Solder ability	Lead-Free Process for SMT Type: 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	No damage
9.5	Heat aging	85 ± 2°C , 96 hours(JIS C0021/MIL-STD-202,method 108A,condition A)	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 B, condition B)	Appearance: No damage Contact resistance: Less than twice of initial Insulation resistance: To pass Para 7-4

	ITEM	TEST CONDITION	REQUIREMENT
9.7	Temperature cycling	Five cycle consists of :(JIS C0025) (1) -55 $^{+0}_{-3}$ °C , 30 min. (2)Room temp. 10-15 min. (3) 85 $^{+3}_{-0}$ °C , 30 min. (4)Room temp. 10-15 min.	Appearance: No damage Contact resistance: Less than twice of initial
9.8	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 / MIL-STD-202 Method 101)	Appearance: No damage Contact resistance: Less than twice of initial

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

11. Mating and Un-mating Force(Remove Latch):

PIN No.	At Initial		At 30th
	Mating(kgf max.)	Un-mating(kfg min.)	Un-mating(kfg min.)
2	2.00	0.20	0.20
3	2.00	0.20	0.20
4	2.00	0.20	0.20
5	3.00	0.30	0.30
6	3.00	0.30	0.30
7	3.00	0.30	0.30
8	4.00	0.40	0.40
9	4.00	0.40	0.40
10	4.00	0.40	0.40
11	5.00	0.50	0.50
12	5.00	0.50	0.50
13	5.00	0.50	0.50
14	6.00	0.60	0.60
15	6.00	0.60	0.60
16	6.00	0.60	0.60
17	7.00	0.70	0.70
18	7.00	0.70	0.70
19	7.00	0.70	0.70
20	8.00	0.80	0.80

12. Recommended IR Reflow Temperature Profile:
12.1 Using Lead-Free Solder Paste