瀚荃股份有限公司
CviLux Corporation

ENGINEERING DEPT.		PRODUCT SPECIFICATION	SPEC.NO.:	SPCP071C
REVISIONS	ECNT120217	CP35 Dual Row Series Power Connector	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
J-STD-020	Resistance to soldering Temperature for through hole Mounted Devices
SS-00254	Test methods for electronic components ,LEAD-FREE soldering Part design standards

3. APPLICABLE SERIES NO.: Headers: CP35**P*HSM-LF
Housing:CP35**SML10
Cover: CP35000C010-NH

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

CVILUX CORP
2020.12.30
ISSUED

REVIEWED : Eisley APPROVED : Sun VERIFIED : Eric .

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7. ELECTRICAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT			
7.1	Rated voltage(max.)		600V AC (r.m.s.)			
	Rated Current(max.) and Applicable Wire (Wire-to-Board)	Circuits/Wire gage	2	4-6	8-12	14-24
		AWG#20 wire gage	7.0A	5.5A	5.0A	4.5A
		AWG#22 wire gage	6.0A	4.5A	4.0A	3.5A
		AWG#24 wire gage	5.5A	4.5A	3.5A	3.0A
		AWG#26 wire gage	4.5A	4.0A	3.5A	2.5A
		AWG#28 wire gage	4.0A	3.0A	3.0A	2.0A
		AWG#30 wire gage	3.5A	3.0A	2.5A	1.0A
	Rated Current(max.) and Applicable Wire (Wire-to-Wire)	Circuits/Wire gage	2	4-6	8-12	14-24
		AWG#20 wire gage	6.5A	5.0A	4.5A	4.0A
		AWG#22 wire gage	5.5A	4.0A	3.5A	3.0A
		AWG#24 wire gage	5.0A	4.0A	3.0A	2.0A
		AWG#26 wire gage	4.0A	3.0A	2.5A	1.5A
		AWG#28 wire gage	3.0A	2.0A	2.0A	1.0A
		AWG#30 wire gage	3.0A	2.0A	2.0A	1.0A
7.2	Contact resistance	Dry circuit of DC 20mV max. , 100mA max., Wire resistance shell be removed from the measured value.	Less than 10 mΩ			
7.3	Dielectric strength	When applied AC 1500 V 1 minute between adjacent terminal	No Breakdown Current leakage<5mA			
7.4	Insulation resistance	When applied DC 500 V between adjacent terminal or ground	More than 1000 MΩ			
7.5	Contact resistance on Crimped portion	Crimp the wire to the terminal, measure by dry circuit, 20mV max., 100mA max., Wire resistance shall be removed from the measured value.	Less than 5 mΩ			

8. MECHANICAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT
8.1	Wire size	Specified wire size	Accepts AWG #20-#30

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	ITEM	TEST CONDITION	REQUIREMENT
8.2	Terminal crimp strength	When crimped AWG#20 size wire	More than 7.0 Kgf
		When crimped AWG#22 size wire	More than 5.0 Kgf
		When crimped AWG#24 size wire	More than 3.0 Kgf
		When crimped AWG#26 size wire	More than 2.0 Kgf
		When crimped AWG#28 size wire	More than 1.2 Kgf
		When crimped AWG#30 size wire	More than 0.8 Kgf
8.3	Terminal insertion force	Insertion speed 25± 3 mm per minute into housing	Less than 1.5 Kgf
8.4	Terminal retaining force in insulator	Retention speed 25± 3 mm per minute from Wire to Wire Housing	More than 2.5 Kgf
8.5	Single contact insertion force	Measure force to insertion using mating square pin at speed 25± 3 mm per minute	700 gram max.
8.6	Single contact withdrawal force	Measure force to withdrawal using mating square pin at speed 25± 3 mm per minute	150 gram min.
8.7	Pin retention force in Board mount Header	Push Pin for insulator base at speed 25± 3 mm per minute	More than 1.4 Kgf
8.8	Durability	Connector shall be subjected to 30 cycles of insertion and withdrawal	Contact resistance: Less than twice of initial
8.9	Locking force	While with drawing plug & receptacle without terminal at speed 25± 3 mm per minute	More than 7.0 Kgf
8.10	Cover retention force	Push Cover for insulator base at speed 25± 3 mm per minute	More than 0.4 Kgf

8.11 Insertion Force and Withdrawal Force :

8.11.1 Test method:

Housing with crimped contacts and a header shall be mated and unmated on the same axis. Initial insertion and withdrawal forces and withdrawal force at 30th shall be measured for single circuit and multi-circuits. For the measurement of single circuit, the housing lock shall be removed.

8.10.2 Requirements:

Unit: Kgf

NO. OF CIRCUITS	INSERTION FORCE Max.)	WITHDRAWAL FORCE (Min.)
2	2.0	0.5
4	3.0	1.0
6	6.0	1.5
8	7.0	2.0
10	9.0	2.5
12	10.0	3.0
14	11.0	3.5
16	12.0	4.0
18	13.0	4.5
20	14.0	5.0
22	15.0	5.5
24	16.0	6.0

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	Heat aging	105± 2°C, 96 hours	No damage Contact resistance: Less than twice of initial
9.4	Humidity	40± 2°C, 90-95% RH, 96 hours measurement must be taken within 30 min. after tested	Appearance: No damage Contact resistance: Less than twice of initial Dielectric strength: To pass para 7-3
9.5	Temperature cycling	One cycle consists of : (1) -55 +0/-3 °C , 30 min. (2) Room temp. 10-15 min. (3) 105 +3/-0 °C , 30 min. (4) Room temp. 10-15 min.	Appearance: No damage Contact resistance: Less than twice of initial

	ITEM	TEST CONDITION	REQUIREMENT
9.6	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 on function Contact resistance: Less than twice of initial
9.7	Solder ability	**Lead-Free Process:** Soldering time: 3 ± 0.5 second Soldering pot: 245 ± 5°C	Minimum: 90% of immersed area
9.8	Resistance to soldering heat	**SMT Type Lead-Free Process:** Soldering time: 20 second Max. Soldering pot: 250~260°C Refer Reflow temperature profile(11.1)	No damage

10. AMBIENT TEMPERATURE RANGE: -40 to + 105°C

11. Recommended IR Reflow Temperature Profile:

11.1 Using Lead-Free Solder Paste