



ENGINEERING DEPT.		PRODUCT SPECIFICATION CP-01 Series Power Connector (High Current)	SPEC.NO.:	SPCP015E
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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

MIL - STD - 1344

Test methods for electrical connectors

3. APPLICABLE SERIES NO.: CP-01100104-HC / CP-01100106-HC / CP-01200104-HC
CP-01200106-HC / CP-01200107-HC
CP-01100104-HC2 / CP-01100106-HC2
CP-013****C/CP-011 & CP-012 Housing
CP-013**15A-HC

4. SHAPE, CONSTRUCTION AND DIMENSIONS

See attached drawings

5. MATERIAL

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 : Eisley VERIFIED : Hank .



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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	Circuits/Wire gage	2-3	4-6	7-10	12-24
		AWG#16 wire gage	12A	11A	10A	9A
		AWG#18 wire gage	12A	11A	10A	9A
		AWG#20 wire gage	9A	9A	8A	8A
		AWG#22 wire gage	7A	6A	6A	6A
		AWG#28 wire gage	3.5A	2A	2A	2A
7.2	Contact resistance	Dry circuit of DC 20mV max. , 100mA max., Wire resistance shall be removed from the measured value.	Less than 10 mΩ(Initial)			
7.3	Dielectric strength	When applied AC 1500 V 1 minute between adjacent terminal Current leakage: 5mA Max.	No change			
7.4	Insulation resistance	When applied DC 500 V between adjacent terminal or ground	More than 1000 MΩ			

8. MECHANICAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT
8.1	Wire size	Specified wire size	Accepts AWG #16-#22 、 #28
8.2	Terminal crimp strength	When crimped AWG#16 size wire	More than 11.0 Kgf
		When crimped AWG#18 size wire	More than 9.0 Kgf
		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#28 size wire	More than 1.3 Kgf
8.3	Terminal insertion force	Insertion speed 25± 3 mm per minute into housing	Less than 1.5 Kgf
8.4	Contact retaining force in insulator	Retention speed 25± 3 mm per minute from housing	More than 3.0 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	100 gram min.



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	ITEM	TEST CONDITION	REQUIREMENT
8.7	Durability	Connector shall be subjected to 30 cycles of insertion and withdrawal	Contact resistance: Less than twice of initial
8.8	Pin retention force	Push pin from insulator base at speed 25± 3 mm per minute	More than 1.0 Kgf

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	Resistance to soldering heat	Soldering time: 5± 0.5 second Soldering pot: 260± 5°C	No damage
9.4	Heat aging	105± 2°C, 96 hours (UL 94V-0)	No damage
		85± 2°C, 96 hours (UL 94V-2)	
9.5	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
9.6	Temperature cycling	One cycle consists of (UL 94V-0): (1)-40 ⁺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
		One cycle consists of (UL 94V-2): (1)-25 ⁺⁰ ₋₃ °C , 30 min. (2)Room temp. 10-15 min. (3) 85 ⁺³ ₋₀ °C , 30 min. (4)Room temp. 10-15 min.	
9.7	Salt spray	Temperature: 35± 3°C Solution: 5± 1% Spray time: 48± 4 hours Measurement must be taken after water rinse	Appearance: No damage Contact resistance: Less than twice of initial



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10. AMBIENT TEMPERATURE RANGE:
-40 to + 105°C (UL 94V-0); -25 to + 85°C (UL 94V-2)

11. MATING FORCE AND UNMATING FORCE: Unit: Kgf

Number of Circuits	Mating Force(Max.)	Unmating Force(Min.)
2	1.8	0.25
4	2.6	0.5
6	4.1	0.8
8	5.5	1.2
10	6.8	1.6
12	8.3	2.0
14	9.7	2.4
16	11.0	2.8
18	12.5	3.2
20	13.8	3.6
22	15.2	4.1
24	16.5	4.6