

ENGINEERING	PRODUCT SPECIFICATION	SPEC.NO.: SPCP015A
DEPT.	CP-01 Series Power Connector (High Current)	PAGE: 1/4

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

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 : Alex APPROVED : David VERIFIED : Eisley .



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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
	When crimped AWG#18 size wire	More than 11.0 Kgf
	When crimped AWG#20 size wire	More than 9.0 Kgf
	When crimped AWG#22 size wire	More than 7.0 Kgf
	When crimped AWG#28 size wire	More than 5.0 Kgf
8.3	Terminal insertion force	Insertion speed 25± 3 mm per minute into housing
8.4	Contact retaining force in insulator	Retention speed 25± 3 mm per minute from housing
8.5	Single contact insertion force	Measure force to insertion using mating square pin at speed 25± 3 mm per minute
8.6	Single contact withdrawal force	Measure force to withdrawal using mating square pin at speed 25± 3 mm per minute
8.7	Durability	Mate connector up to 30 cycles at a maximum rate of 10 cycles per minute prior to test
		Contact resistance: Less than twice of initial

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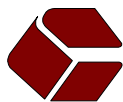
9. ENVIRONMENTAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT
9.1	Temperature rise	Then carried the rated current	Lower than maximum ambient temperature
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

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	Mating Force	Unmating Force
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Circuits	(Max.)	(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