

ENGINEERING DEPT.	PRODUCT SPECIFICATION For CP-01 Single Row Series Power Connector	SPEC.NO.: SPCP020D PAGE: 1/4
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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
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.: CP-01 Single Row Series

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	3	4, 5
		AWG#16~#18 wire gage	9A	8A
		AWG#20 wire gage	7A	6A
		AWG#22 wire gage	5A	4A
		AWG#24 wire gage	4A	3A
		AWG#26 wire gage	3A	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	
7.3	Dielectric strength	When applied AC 1500 V 1 minute between adjacent terminal	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-#26
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#24 size wire	More than 3.0 Kgf
		When crimped AWG#26 size wire	More than 2.0 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 5.0 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.
8.7	Durability	Connector shall be subjected to 100 cycles of insertion and withdrawal	Contact resistance: Less than twice of initial



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	ITEM	TEST CONDITION	REQUIREMENT
8.8	Pin retention force	Push pin from insulator base at speed 25± 3 mm per minute	More than 1.0 Kgf
8.9	Locking force	While with drawing plug & receptacle without terminal at speed 25± 3 mm per minute	More than 1.5 Kgf
8.10	Panel insertion and withdrawal forces	Insert and withdraw a connector at speed 25± 3 mm per minute(Applies only to plugs with panel retention feature)	Insertion force: 22.9 Kgf. Max.
			Withdrawal force: 16.0 Kgf. Min.

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	Tin-Lead Process: Soldering time: 5 ± 0.5 second Soldering pot: 230 ± 5°C Lead-Free Process: Soldering time: 3 ± 0.5 second Soldering pot: 245 ± 5°C	Minimum: 90% of immersed area
9.4	Resistance to soldering heat	Tin-Lead Process: Soldering time: 5 ± 0.5 second Soldering pot: 240 ± 5°C Lead-Free Process Soldering time: 5 ± 0.5 second Soldering pot: 260 ± 5°C	No damage
9.5	Heat aging	105± 2°C, 96 hours (UL 94V-0)	No damage
		85± 2°C, 96 hours (UL 94V-2)	

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	ITEM	TEST CONDITION	REQUIREMENT
9.6	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
9.7	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.	
9.8	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 Circuits	Mating Force (Max.)	Unmating Force (Min.)
3	2.10	0.80
4	2.80	1.20
5	3.50	1.60