

<b>ENGINEERING</b>	<b>PRODUCT SPECIFICATION</b>	<b>SPEC.NO.: SPCP009G</b>
<b>DEPT.</b>	<b>For CP04 Series Power Connector</b>	<b>PAGE: 1 / 5</b>

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.: CP04 Series

4. SHAPE, CONSTRUCTION AND DIMENSIONS

See attached drawings

5. MATERIALS

See attached drawings

6. ACCOMMODATED P.C.BOARD

6.1 P.C. Board Layout: See attached drawings



REVIEWED : ALEX APPROVED : DAVID VERIFIED : BILL .

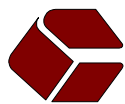
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**7. ELECTRICAL PERFORMANCE:**

	ITEM	TEST CONDITION	REQUIREMENT
7.1	Rated current and voltage	Current rating : When applying AWG #22 wire	1.0A , AC, DC
		Voltage rating:2-circuit (16mm Pitch)	2500V AC,DC
		2-circuit (12mm Pitch)	2000V AC,DC
		2-circuit (8mm Pitch)	1500V AC,DC
		3-circuit (4mm Pitch)	1000V AC,DC
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	Applied 1minute between adjacent terminal For 4 & 8mm Pitch: 1800 V AC For 12mm Pitch: 3000 V AC For 16mm Pitch: 3500 V AC	No Breakdown
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#22-#28
8.2	Terminal crimp strength	When crimped AWG#22 size wire	More than 5 kgf
		When crimped AWG#24 size wire	More than 3 kgf
		When crimped AWG#26 size wire	More than 2 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 0.5 kgf
8.4	Terminal retaining force in insulator	Retention speed 25± 3 mm per minute from Wire to Wire Housing	More than 1.0 kgf
8.5	Single contact insertion force	Measure force to insertion using mating square pin at speed 25± 3 mm per minute	500 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	Pin retention force in Board mount Header	Push Pin for insulator base at speed 25± 3 mm per minute	More than 1.0 kgf



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	ITEM	TEST CONDITION	REQUIREMENT		
8.8	Mating and Unmating force	Speed 25± 3 mm per minute	Pin No	Mating (Max.)	Unmating (Min.)
			2	2.5 kgf	0.5 kgf
			3	3.5 kgf	0.5 kgf
			4	4.5 kgf	0.5 kgf
			5	5.5 kgf	0.5 kgf
8.9	Durability	Connector shall be subjected to 30 cycles of insertion and withdrawal	Contact resistance: Less than twice of initial		

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	85± 2°C, 96 hours	No damage
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 <sup>+0</sup> / <sub>-3</sub> °C , 30 min. (2) Room temp. 10-15 min. (3) 85 <sup>+3</sup> / <sub>-0</sub> °C , 30 min. (4) Room temp. 10-15 min. Total cycles : 5 cycles	Appearance: No damage Contact resistance: Less than twice of initial
9.6	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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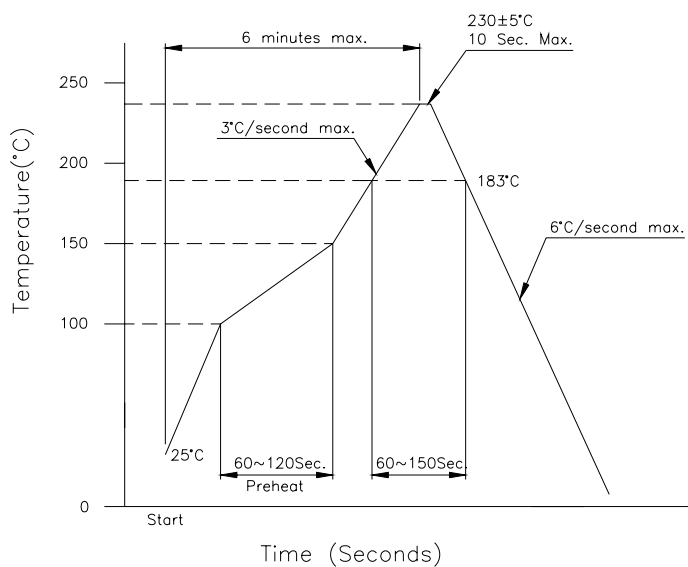
	ITEM	TEST CONDITION	REQUIREMENT
9.7	Solder ability	<b>Tin-Lead Process:</b> Soldering time: 5 ± 0.5 second Soldering pot: 230 ± 5°C <b>Lead-Free Process:</b> Soldering time: 3 ± 0.5 second Soldering pot: 245 ± 5°C	Minimum: 90% of immersed area
9.8	Resistance to soldering heat	<b>DIP Type Tin-Lead Process:</b> Soldering time: 5 ± 0.5 second Soldering pot: 240 ± 5°C <b>DIP Type Lead-Free Process</b> Soldering time: 5 ± 0.5 second Soldering pot: 260 ± 5°C <b>SMT Type Tin-Lead Process:</b> Refer Reflow temperature profile(11.1) Soldering time: 10 second Max. Soldering pot: 230 ± 5 °C <b>SMT Type Lead-Free Process:</b> Soldering time: 20 second Max. Soldering pot: 250~260°C Refer Reflow temperature profile(11.2)	No damage

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

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11. Recommended IR Reflow Temperature Profile:

11.1 Using Typical Solder Paste



11.2 Using Lead-Free Solder Paste

