

ENGINEERING	PRODUCT SPECIFICATION	SPEC.NO.: SPCP023C
DEPT.	For CP05 Latch Type Series Power Connector	PAGE: 1 / 5

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.: CP05 With Latch Type 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 : Hank .

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7. ELECTRICAL PERFORMANCE:

	ITEM	TEST CONDITION	REQUIREMENT
7.1	Rated current and voltage		1.0A (AWG #24) , 1400V 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	When applied AC 3800 V 1 minute between adjacent terminal	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#24-#28		
8.2	Terminal crimp strength	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 from insulator base at speed 25± 3 mm per minute	More than 0.7 kgf		
8.8	Mating and Unmating force	Speed 25± 3 mm per minute	Mating (Max.)	Unmating (Min.)	
			With latch	2.0 kgf	3.0 kgf
			Without latch	2.0 kgf	0.4 kgf
8.9	Durability	Connector shall be subjected to 30 cycles of insertion and withdrawal	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	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 ⁺⁰ ₋₃ °C , 30 min. (2) Room temp. 10-15 min. (3) 85 ⁺³ ₋₀ °C , 30 min. (4) Room temp. 10-15 min. Total cycle: 5 cycle	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
9.7	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

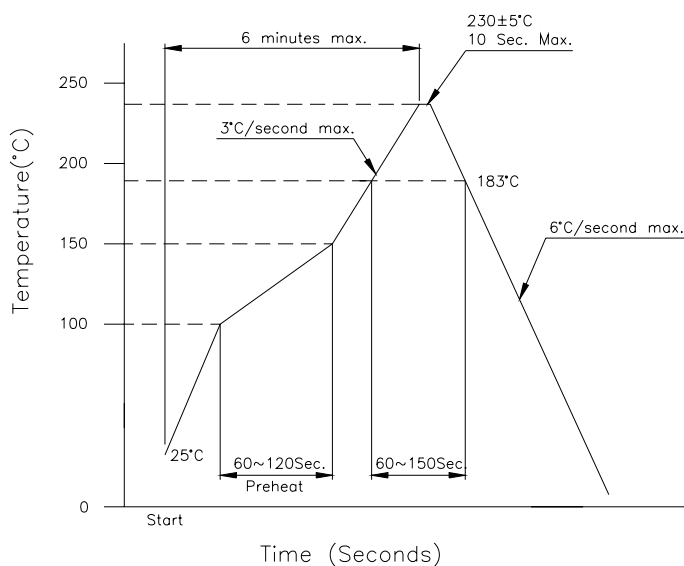
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ITEM	TEST CONDITION	REQUIREMENT
9.8 Resistance to soldering heat	<p>DIP Type Tin-Lead Process: Soldering time: 5 ± 0.5 second Soldering pot: 240 ± 5°C</p> <p>DIP Type Lead-Free Process Soldering time: 5 ± 0.5 second Soldering pot: 260 ± 5°C</p> <p>SMT Type Tin-Lead Process: Refer Reflow temperature profile(11.1) Soldering time: 10 second Max. Soldering pot: 230 ± 5 °C</p> <p>SMT Type Lead-Free Process: Soldering time: 20 second Max. Soldering pot: 250~260°C Refer Reflow temperature profile(11.2)</p>	No damage

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

11. Recommended IR Reflow Temperature Profile:

11.1 Using Typical Solder Paste



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12.2 Using Lead-Free Solder Paste

