

ENGINEERING DEPT.	PRODUCT SPECIFICATION For CP05 Latch Type Series Halogen-Free Power Connector	SPEC.NO.: SPCP047A 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
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.: Housing: CP0502SL000 (Halogen-Free)  
Header: CP0502P\*ML0-NH (Halogen-Free)  
CP0502P\*HL0-NH (Halogen-Free)  
Terminal: CP05T021PE0

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 : Eisley VERIFIED : Eager .

<b>ENGINEERING</b>  <b>DEPT.</b>	<b>PRODUCT SPECIFICATION</b>  <b>For CP05 Latch Type Series Halogen-Free Power Connector</b>	<b>SPEC.NO.: SPCP047A</b>
		<b>PAGE: 2 / 4</b>

**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.)
			2.0 kgf	3.0 kgf
8.9	Durability	Connector shall be subjected to 30 cycles of insertion and withdrawal	Contact resistance: Less than twice of initial	



ENGINEERING DEPT.	PRODUCT SPECIFICATION For CP05 Latch Type Series Halogen-Free Power Connector	SPEC.NO.: SPCP047A
		PAGE: 3 / 4

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) $-55_{-3}^{+0}$ °C , 30 min. (2) Room temp. 10-15 min. (3) $85_{-0}^{+3}$ °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	<b>Lead-Free Process:</b> Soldering time: 3 ± 0.5 second Soldering pot: 245 ± 5°C	Minimum: 90% of immersed area

ENGINEERING DEPT.	PRODUCT SPECIFICATION  For CP05 Latch Type Series Halogen-Free Power Connector	SPEC.NO.: SPCP047A
		PAGE: 4 / 4

	ITEM	TEST CONDITION	REQUIREMENT
9.8	Resistance to soldering heat	<b>DIP Type Lead-Free Process</b> Soldering time: $5 \pm 0.5$ second Soldering pot: $260 \pm 5^{\circ}\text{C}$ <b>SMT Type Lead-Free Process:</b> Soldering time: 20 second Max. Soldering pot: $250\sim 260^{\circ}\text{C}$ Refer Reflow temperature profile(11.2)	No damage

10. AMBIENT TEMPERATURE RANGE:  $-25$  to  $+85^{\circ}$

11. Recommended IR Reflow Temperature Profile:

11.1 Using Lead-Free Solder Paste

