

SPECIFICATION AND PERFORMANCE

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| Series | 123A-58X01 | File | 123A-58X01_SPEC_1 | Date | 2021/06/08 |
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Scope:

This specification covers the requirements for product performance, test methods and quality assurance provisions of below

| P/N | Description |
|------------|---|
| 123A-58B01 | M.2 Socket, H5.8 B Key 0.5 Pitch G/F, Black, Reel |
| 123A-58E01 | M.2 Socket, H5.8 E Key 0.5 Pitch G/F, Black, Reel |
| 123A-58M01 | M.2 Socket, H5.8 M Key 0.5 Pitch G/F, Black, Reel |

Performance and Descriptions:

The product is designed to meet the electrical, mechanical and environmental performance requirements specification. Unless otherwise specified, all tests are performed at ambient environmental conditions.

RoHS:

All material in according with the RoHS environment related substances list controlled.

MATERIALS

| NO. | PART NAME | DESCRIPTION |
|-----|-----------|---|
| 1 | Housing | LCP E6808, UL94V-0, Black |
| 2 | Contact | Phosphor Bronze C5210, gold flash plating on contact & solder area, 50u" min. nickel under-plating over all |
| 3 | Hold down | Brass C2680, 50u"min. matte tin plating under 50u" min. nickel plating |

RATING

| | |
|-----------------------|----------------|
| Rated Voltage | 50VAC |
| Rated Current | 0.5A |
| Operating Temperature | -40°C TO +85°C |
| Storage Temperature | -40°C TO +85°C |
| Durability | 60 CYCLES |

ELECTRICAL

| Item | Requirement | Test Condition |
|-----------------------|------------------------------------|---|
| Contact Resistance | 55mΩ max.(initial), Δ20mΩ (finish) | Subject mated contacts assembled in housing to closed circuit current of 100mA (max) at open circuit voltage of 20mV voltage (max.) EIA 364-23 |
| Insulation Resistance | 500MΩ min. | Measure by applying 500VDC for 2 minutes between adjacent contacts of |

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| | | unmated connector. EIA-364-21 |
| Withstanding Voltage | No Breakdown | Apply 300VAC for 1 minute between adjacent contacts of unmated connector. EIA-364-20 |

MECHANICAL

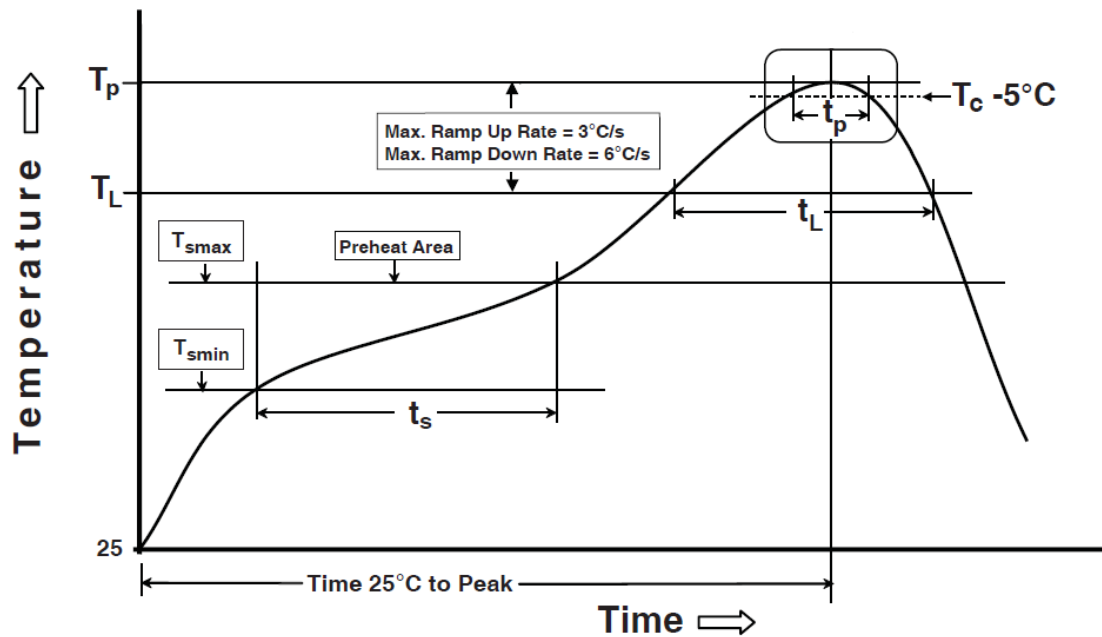
| Item | Requirement | Test Condition |
|------------------------------|--|---|
| Mating Force/ Unmating Force | 2.04Kgf(20N) Max. | Measure the force required to mate/unmate connector, operation Speed: 25.4mm/min. EIA-364-13 |
| Durability | No evidence of physical damage Contact resistance $\Delta 20m\Omega$ max. | Connector shall be subjected to 60 cycles of insertion and withdrawal. Manual insertion/ withdrawal speed rate: 250cycles/hours EIA-364-09 |
| Vibration | Appearance: no damage Discontinuity: 1 μ sec Max. | 15 Minutes in each of 3 mutually perpendicular Direction both mating halves should be rigidly fixed so as not to contribute to the relative motion of one contact against another. EIA-364-28 Test condition VII test condition letter D |
| Physical Shock | Appearance: no damage Discontinuity: 1 μ sec Max. | Acceleration: 285G Time: 2ms (half sine wave) Cycles: 3 drops each to normal and reversed directions of X,Y,Z axes, total 18 drops. (EIA-364-27) |

ENVIRONMENTAL

| Item | Requirement | Test Condition |
|------------------|---|---|
| Solder ability | 95% min. of solder area 10x the magnifying glass of view | Soldering time : 4~ 5 second Solder Temperature: 245 \pm 5 $^{\circ}$ C (EIA-364-52) |
| Thermal Shock | Contact resistance $\Delta 20m\Omega$ max. | Mated Connectors -55+/-3 $^{\circ}$ C (30 min.), + 85+/-2 $^{\circ}$ C (30 min.) Perform this cycle, repeat 10 cycles (EIA-364-32 condition I) |
| Temperature Life | Contact resistance $\Delta 20m\Omega$ max. | Mated Connector 105 $^{\circ}$ C, 96 hours, (EIA-364-17 test condition IV.) |
| Humidity | Contact resistance $\Delta 20m\Omega$ max. | Subject mated Connectors to 96 hours at 40 $^{\circ}$ C with 90~ 95% RH. (EIA-364-31 Method II Test Condition A.) |
| Salt Spray | No detrimental corrosion allowed in contact area and base metal | Subject mated connectors to 35+/-2 $^{\circ}$ C and |



| | | |
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| | exposed | 5+/-1% salt condition for 48hours. After test, rinse the sample with water and recondition the room temperature for 1 hour. (EIA-364-26) |
| Mixed flowing gas | Contact Resistance $\Delta R = 20 \text{ m}\Omega \text{ Max. (Final)}$ | Mated connectors, Duration: 120 hours (EIA-364-65, class IIA) |
| Resistance to Reflow Soldering Heat | No physical damage shall occur. Test Initial and final, coplanarity of product shall meet requirements of applicable product drawing and specification. | Test connector on PCB Pre-heat: 150~180°C, 90±30sec. Solder heat: 230°C Min, 30±10sec. Peak temp: 260°C Max. 3~5sec. |



Preheating temperature: 150 ~ 180°C, 90±30 seconds

Liquidus temperature (TL): 230°C, 30±10 seconds

Peak temperature: 260°C

Time within 5 °C of peak temperature (Tc): 255°C, 30seconds