

## SPECIFICATION AND PERFORMANCE

|        |            |      |                   |      |            |
|--------|------------|------|-------------------|------|------------|
| Series | 125X-78X00 | File | 125-Series_SPEC_3 | Date | 2020/04/17 |
|--------|------------|------|-------------------|------|------------|

### Scope:

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

| P/N        | Descriptions   |
|------------|--|
| 125A-78A00 | MXM 230P Connector, STD, 7.8H, Gold Flash, Black, Reel |
| 125A-78C00 | MXM 230P Connector, STD, 7.8H, 5u", Black, Reel        |
| 125A-78D00 | MXM 230P Connector, STD, 7.8H, 10u", Black, Reel       |
| 125B-78A00 | MXM 314P Connector, STD, 7.8H, Gold Flash, Black, Reel |
| 125B-78C00 | MXM 314P Connector, STD, 7.8H, 5u", 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.

| MATERIAL AND FINISH |   |  |
|---------------------|---|--|
| INSULATOR           | Material  | LCP, UL94V-0, Black                              |
| CONTACT             | Material  | Copper Alloy                                     |
|                     | Plating   | Au Plated 5μ" MIN.<br>Ni Under Plated 60μ" MIN.  |
| SHELL OR COVER      | Material  | Copper Alloy                                     |
|                     | Plating   | Ni Under Plated 60μ" MIN.<br>Matte Tin 80μ" MIN. |
| RATING              | Current Rating: 0.5A (per pin)<br>Voltage Rating: 50V DC (per pin)<br>Contact Resistance: 40mΩ max (Initial)<br>Withstanding Voltage: 250V AC<br>Operating Temperature: -40~+85°C |  |

| ELECTRICAL        |                    |                |
|-------------------|--------------------|----------------|
| Item              | Requirement        | Test Condition |
| Low Level Contact | Initial: 40mΩ max. | EIA-364-23B    |

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|                                 |   |  |
|---------------------------------|---|--|
| Resistance                      | Final: 50mΩ max or $\Delta$ 20mΩ max, whichever is less, for measurements after other tests | Specify which option used.<br>Do not used option 4.<br>[ Reference to Figure 1 ]   |
| Dielectric Withstanding Voltage | No evidence of flash over or insulation shall take place.<br>Current leakage: 1mA Max.      | EIA-364-20B<br>Method B on one pair of upper adjacent contacts and on one pair of lower adjacent contacts.<br>Apply 250V AC (50Hz) for 1 minute.   |
| Insulation Resistance           | Initial: 250MΩ Min.<br>Final: 50MΩ Min.   | EIA-364-21C<br>Impressed voltage 500V DC.<br>Test between adjacent circuits of unmated connector.  |
| Temperature Rise                | 30°C Max change allowed at rated current.   | EIA-364-70 Method 2<br>Mate connectors, measure the temperature rise at rated current after 0.5A/Power contact. The temperature rise above ambient shall not exceed 30°C the ambient condition is still air at 25°C. |

## MECHANICAL

| Item                         | Requirement   | Test Condition   |
|------------------------------|---|--|
| Mating/Unmating Force        | 30 cycles<br>125A-78C00(230P)<br>Mating Force: 13N Max.<br>Unmating Force: 16N Max.<br><br>125B-78C00(314P)<br>Mating Force: 25N Max.<br>Unmating Force: 28N Max. | EIA-364-13C<br>Card mating/unmating sequence:<br>a) Insert the card at the angle specified by the manufacture.<br>b) Rotate the card into position.<br>c) Reverse the installation sequence to unmating.<br>Operation Speed:<br>25.4mm per minute. Measure the force required to mate/unmate connector.<br>[ Reference to Figure 2 ] |
| Durability                   | 30 cycles<br>No evidence of physical damage.  | EIA-364-09<br>The sample should be mounted in the tester and fully mate and unmated the rate of 25.4mm per minute.   |
| Durability (Preconditioning) | 5 cycles<br>No evidence of physical damage.   | EIA-364-09<br>The sample should be mounted in the tester and fully mate and unmated the rate of 25.4mm per minute.   |
| Vibration                    | No electrical discontinuity greater than 1 $\mu$ sec shall occur.<br>No evidence of physical damage.  | EIA-364-28<br>Test condition VII, Test condition D<br>With a 40x40mm block of 100 grams fastened and center of Module.   |
| Mechanical Shock             | No electrical discontinuity greater than 1 $\mu$ sec shall occur.<br>No evidence of physical  | EIA-364-27B<br>Test condition A<br>With a 40x40mm block of 100 grams fastened and center of Module.  |

|                            |                |  |
|----------------------------|----------------|--|
|                            | damage.        |  |
| Solder Peg Retention Force | 5N/Pos. (Min.) | Place a connector on the push-pull machine, then apply a force on a contact head and push the latch to the opposite direction of the latch spring insertion at the speed of 25±3mm/min.<br>Measure the force when the latch spring dislodges from insulator. |
| Contact Retention Force    | 1N/Pos. (Min.) | Place a connector on the push-pull machine, the apply a force on a contact head and push the contact to the opposite direction of the contact insertion at the speed of 25±3mm/min.<br>Measure the force when the contact dislodges from insulator.          |

### ENVIRONMENTAL

| Item                               | Requirement                     | Test Condition   |
|------------------------------------|---------------------------------|--|
| Humidity Temperature Cycle         | No evidence of physical damage. | EIA-364-31, method III<br>Mated Connector. Initial measurement, cold shock and vibration. Cycle the connector between 25±3 °C at 80±3%RH and 65±3 °C at 50±3%RH.<br>Ramp times should be 0.5 hour and dwell times should be 1.0 hour. Dwell times start when the temperature and humidity have stabilized within the specified levels. Perform 24 such cycles. |
| Thermal Shock                      | No evidence of physical damage. | EIA-364-32, test condition I<br>Mated Connector, 10 cycles   |
| Temperature Life                   | No evidence of physical damage. | EIA-364-17, method A<br>Mated Connector, 105°C, 120 hours  |
| Temperature Life (Preconditioning) | No evidence of physical damage. | EIA-364-17, method A<br>Mated Connector, 105°C, 92 hours   |
| Reseating                          | No evidence of physical damage. | Manually mating/unmating the connector. Perform 3 such cycles.   |

### SOLDER ABILITY

| Item                             | Requirement                     | Test Condition   |
|----------------------------------|---------------------------------|--|
| Reflow Soldering Heat Resistance | No evidence of physical damage. | Pre-heat: 150~215°C, 30~120 sec.<br>Reflow: 230°C MIN, 40 sec Min.<br>Peak temp: 260°C Max, 10 sec Max.<br>[ Reference to Figure 3 ] |
| Solder Ability                   | Solder coverage 95%Min.         | EIA-364-52<br>Solder 5±0.5 seconds.<br>Solder temperature: 245±5°C   |

| Test Item             |                                    | Test Group |     |       |     |   |     |         |       |     |     |
|-----------------------|------------------------------------|------------|-----|-------|-----|---|-----|---------|-------|-----|-----|
|                       |                                    | A          | B   | C     | D   | E | F   | G       | H     | I   | J   |
| 1                     | Examination of Product             | 1          | 1,7 | 1,5,8 | 1,5 | 1 | 1,7 | 1,10    | 1,8   | 1,3 | 1,3 |
| 2                     | Low Level Contact Resistance       |            | 2,6 | 2,5,7 | 2,4 |   |     | 2,5,7,9 | 2,5,7 |     |     |
| 3                     | Dielectric Withstanding Voltage    |            |     |       |     |   | 2,5 |         |       |     |     |
| 4                     | Insulation Resistance              |            |     |       |     |   | 3,6 |         |       |     |     |
| 5                     | Temperature Rise                   | 2          |     |       |     |   |     |         |       |     |     |
| 6                     | Mating/Unmating Force              |            | 3,5 |       |     |   |     |         |       |     |     |
| 7                     | Durability                         |            | 4   |       |     |   |     |         |       |     |     |
| 8                     | Durability(Preconditioning)        |            |     | 3     |     |   |     | 3       | 3     |     |     |
| 9                     | Vibration                          |            |     | 6     |     |   |     |         |       |     |     |
| 10                    | Mechanical Shock                   |            |     |       | 3   |   |     |         |       |     |     |
| 11                    | Solder Peg Retention Force         |            |     |       |     | 2 |     |         |       |     |     |
| 12                    | Contact Retention Force            |            |     |       |     | 3 |     |         |       |     |     |
| 13                    | Humidity Temperature Cycling       |            |     |       |     |   | 4   | 6       |       |     |     |
| 14                    | Thermal Shock                      |            |     |       |     |   |     | 4       |       |     |     |
| 15                    | Temperature Life                   |            |     |       |     |   |     |         | 4     |     |     |
| 16                    | Temperature Life (Preconditioning) |            |     | 4     |     |   |     |         |       |     |     |
| 17                    | Reseating                          |            |     |       |     |   |     | 8       | 6     |     |     |
| 18                    | Reflow Soldering Heat Resistance   |            |     |       |     |   |     |         |       | 2   |     |
| 19                    | Solder Ability                     |            |     |       |     |   |     |         |       |     | 2   |
| Quantities of Samples |                                    | 5          | 5   | 5     | 5   | 5 | 5   | 5       | 5     | 5   | 5   |

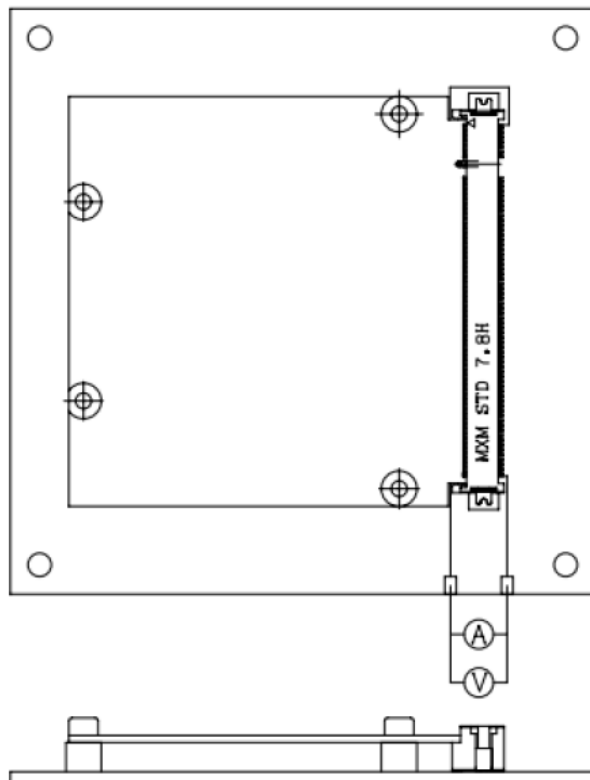
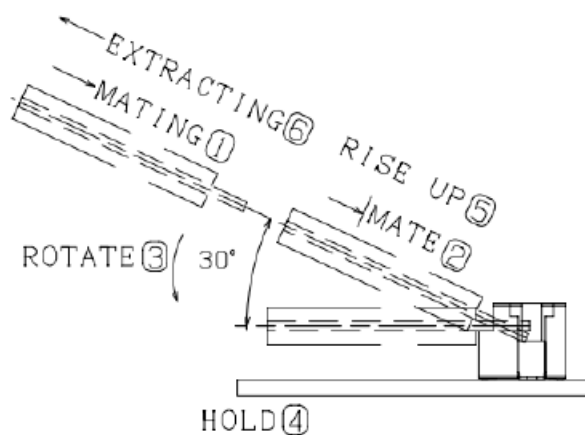


Figure 1



HOW TO MATE AND UNMATE

MATE ① - ④

UNMATE ⑤ - ⑥

Figure 2

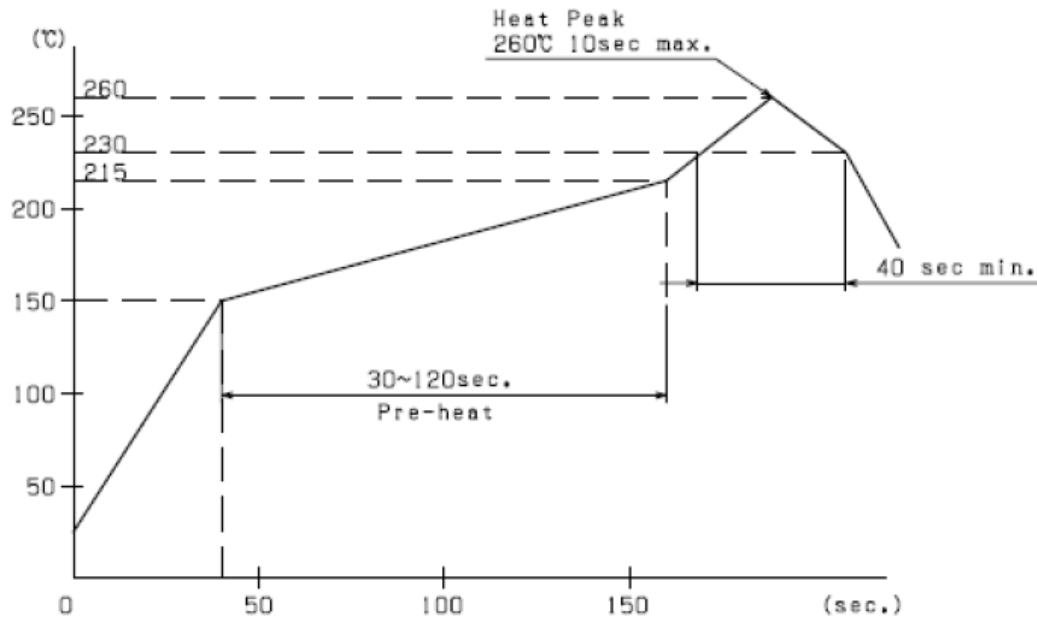


Figure 3