

0.8mm FS (Fine-Stack) B To B CONNECTOR**1. INTRODUCTION****1.1. Purpose**

Testing was performed on the 0.8mm FS (Fine-Stack) B to B connector to determine its conformance to the requirements of Product Specification 108-57488 Revision O.

1.2. Scope

This report covers the electrical, mechanical, and environmental performance of the 0.8mm FS (Fine-Stack) B to B connector.

1.3. Conclusion

The 0.8mm FS (Fine-Stack) B to B connector, listed in paragraph 1.5., meets the electrical, mechanical, and environmental performance requirements of Product Specification 108-57488 Revision O.

1.4. Product Description

The 0.8mm FS (Fine-Stack) B to B connector is designed for printed circuit board applications. The contacts are copper alloy, Tin or Tin-Lead over nickel plating over entire contact. The housing material is glass filled insulating polymer, UL 94V-0.

1.5. Test Samples

The test samples were randomly selected from normal current production lots, and the following samples were used for test:

| Test Group | Quantity | No. of pos. | Description |
|------------------------|----------|-------------|-----------------------------------|
| A, B, C, D, E, F, G, H | 10 each | 12 | 0.8 BTB, 3H (Mating Height: 3 mm) |
| A, B, C, D, E, F, G, H | 10 each | 12 | 0.8 BTB, 5H (Mating Height: 5 mm) |
| A, B, C, D, E, F, G, H | 10 each | 30 | 0.8 BTB, 3H (Mating Height: 3 mm) |
| A, B, C, D, E, F, G, H | 10 each | 30 | 0.8 BTB, 5H (Mating Height: 5 mm) |

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1.6. Product Qualification and Test Sequence

| Test or Examination | Test Group | | | | | | | |
|---------------------------------|-------------------|------|------|------|------|------|------|------|
| | A | B | C | D | E | F | G | H |
| | Test Sequence (a) | | | | | | | |
| Examination of Product | 1, 5 | 1, 4 | 1, 3 | 1, 5 | 1, 3 | 1, 8 | 1, 3 | 1, 3 |
| Contact resistance | 2 | | | 2, 4 | | 2, 6 | | |
| Insulation resistance | 3 | | | | | 3, 7 | | |
| Dielectric withstanding voltage | 4 | | | | | 4 | | |
| Connector mating force | | 2 | | | | | | |
| Connector unmating force | | 3 | | | | | | |
| Contact retention force | | | 2 | | | | | |
| Durability | | | | 3 | | | | |
| Vibration | | | | | 2 | | | |
| Humidity/Temperature cycling | | | | | | 5 | | |
| Resistance to Soldering Heat | | | | | | | 2 | |
| Solderability | | | | | | | | 2 |

Note: (a) Numbers indicate sequence in which tests are performed.

Figure 1

2. TEST RESULT

| GP | TEST | SPEC. | | | DATA | | | |
|---------------------------------|--------------------------|-------------------------------------|--------|------|------|------|------|----------|
| | | | | | Mean | Max. | Min. | σ |
| A | Contact resistance | 40 mΩ max. (Initial) | 12 Pos | 3H | 14.3 | 17.6 | 13.5 | 1.4 |
| | | | | 5H | 22.1 | 28.6 | 19.5 | 3.26 |
| | | | 30 Pos | 3H | 16.4 | 18.6 | 14.5 | 1.4 |
| | | | | 5H | 15.6 | 18.3 | 14.1 | 1.4 |
| | Insulation resistance | 500 MΩ min. (Initial) | | | OK | OK | OK | --- |
| Dielectric withstanding Voltage | 500 VAC for 1 minute. | | | OK | OK | OK | --- | |
| Appearance | No Damage. | | | OK | OK | OK | --- | |
| B | Connector Mating Force | Pos. X 150g (1.47N) max. | 12 Pos | 3H | 1108 | 1178 | 1037 | 62 |
| | | | | 5H | 1097 | 1230 | 1003 | 74 |
| | | | 30 Pos | 3H | 2769 | 2946 | 2592 | 156 |
| | | | | 5H | 2742 | 3075 | 2508 | 186 |
| | Connector Unmating Force | Pos. X 20g (0.196N) min. | 12 Pos | 3H | 595 | 688 | 530 | 54 |
| | | | | 5H | 618 | 703 | 568 | 55 |
| | | | 30 Pos | 3H | 1488 | 1719 | 1326 | 144 |
| | | | | 5H | 1545 | 1758 | 1419 | 138 |
| Appearance | No Damage. | | | OK | OK | OK | --- | |
| C | Contact retention force | 100g (0.98N) min. | 12 Pos | 3H | 372 | 474 | 305 | 68 |
| | | | | 5H | 336 | 433 | 265 | 73 |
| | | | 30 Pos | 3H | 367 | 473 | 294 | 71 |
| | | | | 5H | 354 | 423 | 305 | 82 |
| | Appearance | No Damage. | | | OK | OK | OK | --- |
| D | Contact resistance | 40 mΩ max. (Initial) | 12 Pos | 3H | 14.8 | 18.2 | 13.2 | 1.4 |
| | | | | 5H | 25.6 | 30.4 | 20.1 | 3.7 |
| | | | 30 Pos | 3H | 15.8 | 18.7 | 13.9 | 1.3 |
| | | | | 5H | 16.1 | 18.7 | 14.3 | 1.3 |
| | Durability | 20 cycles | | | OK | OK | OK | --- |
| | Contact resistance | 60 mΩ max. (Final) | 12 Pos | 3H | 16.4 | 20.1 | 15.3 | 1.6 |
| | | | | 5H | 26.7 | 32.7 | 22.5 | 3.6 |
| | | | 30 Pos | 3H | 18.6 | 21.3 | 16.2 | 1.7 |
| 5H | | | | 17.6 | 20.3 | 15.4 | 1.5 | |
| Appearance | No damage. | | | OK | OK | OK | --- | |
| E | Vibration | No current discontinuity of 1μ Sec. | | | OK | OK | OK | --- |
| | Appearance | No damage. | | | OK | OK | OK | --- |

Figure 2 (cont.)

| GP | TEST | SPEC. | | DATA | | | | |
|-----------------------|---------------------------------|--|--------|------|------|------|----------|-----|
| | | | | Mean | Max. | Min. | σ | |
| F | Contact resistance | 40 m Ω max. (Initial) | 12 Pos | 3H | 14.6 | 17.8 | 13.1 | 1.4 |
| | | | | 5H | 26.4 | 32.1 | 21.3 | 3.9 |
| | | | 30 Pos | 3H | 16.1 | 18.3 | 14.2 | 1.4 |
| | | | | 5H | 16.4 | 19.1 | 14.6 | 1.5 |
| | Insulation resistance | 500 M Ω min (Initial) | | OK | OK | OK | --- | |
| | Dielectric withstanding Voltage | 500 VAC for 1 minute. | | OK | OK | OK | --- | |
| | Humidity/ Temperature Cycling | 25°C & 65°C at 95% R.H. per 24 hours. | | OK | OK | OK | --- | |
| | Contact resistance | 60 m Ω max. (Final) | 12 Pos | 3H | 29.2 | 36.9 | 25.7 | 3.4 |
| | | | | 5H | 32.5 | 38.6 | 28.5 | 3.5 |
| | | | 30 Pos | 3H | 31.4 | 38.6 | 27.8 | 2.5 |
| 5H | | | | 31.6 | 38.2 | 27.6 | 3.3 | |
| Insulation resistance | 100 M Ω min (Final) | | OK | OK | OK | --- | | |
| Appearance | No Damage. | | OK | OK | OK | --- | | |
| G | Resistance to soldering Heat | 250°C \pm 5°C for 5 \pm 1 seconds. | | OK | OK | OK | --- | |
| | Appearance | No Damage. | | OK | OK | OK | --- | |
| H | Solderability | 235°C \pm 5°C for 5 \pm 0.5 seconds. | | OK | OK | OK | --- | |
| | Appearance | No Damage. | | OK | OK | OK | --- | |

Figure 2 (end)