

SPEC. NO.: PS-51079-XXXXX-XXX

REVISION: B

PRODUCT NAME: 0.8mm BTB CONN. SMT D/R S/T TYPE

PRODUCT NO: 51079-XXXXX-XXX SERIES
51080-XXXXX-XXX SERIES

| | | |
|--------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| PREPARED: CHEN CHUN YUAN DATE: 2020/02/05 | CHECKED: LEE I HUNG DATE: 2020/02/05 | APPROVED: WANG CHUN SHENG DATE: 2020/02/05 |
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1 Revision History

| Rev. | ECN # | Revision Description | Prepared | Date |
|------|---------|---------------------------------------------------------|----------------------|------------|
| A | 1912233 | FOR PDR APD1080163/1080164 | CHEN CHUN YUAN | 2019/12/11 |
| B | 2020028 | ADD Male / Female Terminal / Housing Retention Force | CHEN CHUN YUAN | 2020/02/11 |
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2 SCOPE

This specification covers performance, tests and quality requirements for 0.8 mm BTB CONN. SMT D/R S/T TYPE

3 APPLICABLE DOCUMENTS

EIA-364: ELECTRONICS INDUSTRIES ASSOCIATION

4 REQUIREMENTS

4.1 Design and Construction

- 4.1.1 Product shall be of design, construction and physical dimensions specified on applicable product drawing.
- 4.1.2 All materials conform to R.o.H.S. and the standard depends on TQ-WI-140101.

4.2 Materials and Finish

- 4.2.1 Contact: High performance copper alloy ([Phosphor Bronze](#))
Finish: (a) Contact Area: [Refer to the drawing.](#)
(b) Under plate: [Refer to the drawing.](#)
(c) Solder area: [Refer to the drawing.](#)
- 4.2.2 Housing: Thermoplastic or Thermoplastic High Temp., UL94V-0
- 4.2.3 Fitting Nail: [Copper Alloy](#), Finish: [Refer to the drawing.](#)
- 4.2.4 SHELL: [SUS](#)

4.3 Ratings

- 4.3.1 Voltage: 50 Volts AC/DC (per pin)
- 4.3.2 Current: 2.0 Amperes (per pin)
- 4.3.3 Operating Temperature : [-40°C to +85°C](#)

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5 Performance

5.1. Test Requirements and Procedures Summary

| Item | Requirement | Standard |
|------------------------------------|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Examination of Product | Product shall meet requirements of applicable product drawing and specification. | Visual, dimensional and functional per applicable quality inspection plan. |
| ELECTRICAL | | |
| Item | Requirement | Standard |
| Low Level Contact Resistance | 50 m Ω Max.(initial)per contact Δ 10 m Ω Max.(finish) | Mate connectors, measure by dry circuit, 20mV Max., 100mA Max. (EIA-364-23) |
| Insulation Resistance | 1000 M Ω Min. | Unmated connectors, apply 500 V DC between adjacent terminals. (EIA-364-21) |
| Dielectric Withstanding Voltage | No discharge, flashover or breakdown. Current leakage: 1 mA max. | 250 VAC Min. at sea level for 1 minute. Test between adjacent contacts of unmated connectors. (EIA-364-20) |
| Temperature rise | 30°C Max. Change allowed | Mate connector: measure the temperature rise at rated current until temperature stable. The ambient condition is still air at 25°C (EIA-364-70,METHOD1,CONDITION1) |
| MECHANICAL | | |
| Item | Requirement | Standard |
| Durability | 30 cycles. | The sample should be mounted in the tester and fully mated and unmated the number of cycles specified at the rate of 25.4 \pm 3mm/min. (EIA-364-09) |
| Mating/Unmating Forces | Mating 50 g (Max.) / Per Pin Unmating 10 g (Min.) / Per Pin | Operation Speed : 25.4 \pm 3 mm/minute.. Measure the force required to mate/unmate connector. (EIA-364-13) |
| Terminal / Housing Retention Force | Male / Female 0.1 kgf MIN. | Apply axial pull out force at the speed rate of 10 \pm 3 mm/minute. On the terminal assembled in the housing. |

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| Vibration | 1 μ s Max. | The electrical load condition shall be 100 mA maximum for all contacts. Subject to a simple harmonic motion having amplitude of 0.76mm (1.52mm maximum total excursion) in frequency between the limits of 10 and 55 Hz. The entire frequency range, from 10 to 55 Hz and return to 10 Hz, shall be traversed in approximately 1 minute. This motion shall be applied for 2 hours in each of three mutually perpendicular directions. (EIA-364-28 Condition I) |
| Shock (Mechanical) | 1 μ s Max. | Subject mated connectors to 50 G's (peak value) half-sine shock pulses of 11 milliseconds duration. Three shocks in each direction shall be applied along the three mutually perpendicular axes of the test specimen (18 shocks). The electrical load condition shall be 100mA maximum for all contacts. (EIA-364-27, test condition A) |

ENVIRONMENTAL

| Item | Requirement | Standard |
|-------------------------------------|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Resistance to Reflow Soldering Heat | See Product Qualification and Test (Lead Free) | Pre Heat : 150°C~180°C, 60~120sec. Heat : 230°C Min., 40sec Min. Peak Temp. : 260°C Max, 10sec Max. Rellow number cycle: 2 times |
| Thermal Shock | See Product Qualification and Test Sequence Group 4 | Mate module and subject to follow condition for 5 cycles. 1 cycles: -55 +0/-3 °C, 30 minutes +85 +3/-0 °C, 30 minutes (EIA-364-32, test condition I) |
| Humidity | See Product Qualification and Test Sequence Group 4 | Mated Connector 40°C, 90~95% RH, 96 hours. (EIA-364-31,Condition A, Method II) |
| Temperature life | See Product Qualification and Test Sequence Group 5 | Subject mated connectors to temperature life at 85°C for 96 hours. (EIA-364-17, Test condition A) |

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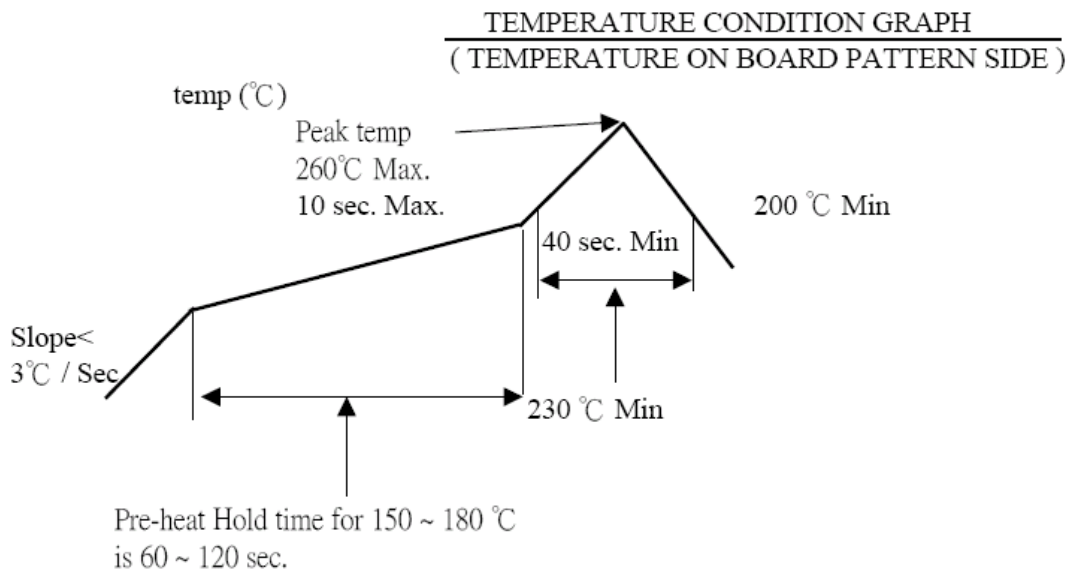
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|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Salt Spray (Only For Gold Plating) | See Product Qualification and Test Sequence Group 6 | Subject mated connectors to 5% salt-solution concentration, 35°C (I) Gold flash for 8 hours (II) Gold plating 5 u" for 96 hours. (EIA-364-26) |
| Solder ability | Tin plating: Solder able area shall have minimum of 95% solder coverage. Gold plating: Solder able area shall have minimum of 75% solder coverage | And then into solder bath, Temperature at 245 ±5°C, for 4-5 sec. (EIA-364-52) |
| Hand Soldering Temperature Resistance | Appearance: No damage | T ≥ 350°C, 3sec at least. |

Note. Flowing Mixed Gas shall be conducted by customer request.

6 INFRARED REFLOW CONDITION

6.1 Lead-Free Process



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7 PRODUCT QUALIFICATION AND TEST SEQUENCE

| Test or Examination | Test Group | | | | | | | | | |
|---------------------------------------|---------------|-----|-----|------|-----|-----|---|---|-----|--|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| | Test Sequence | | | | | | | | | |
| Examination of Product | 1,3 | 1 | 1 | 1、7 | 1、6 | 1、4 | | | 1,3 | |
| Low Level Contact Resistance | | 2、6 | 2、5 | 2、8 | 2、7 | 2、5 | | | | |
| Insulation Resistance | | | | 3、9 | 3、8 | | | | | |
| Dielectric Withstanding Voltage | | | | 4、10 | 4、9 | | | | | |
| Temperature rise | 2 | | | | | | | | | |
| Mating / Unmating Forces | | 3、5 | | | | | | | | |
| Durability | | 4 | | | | | | | | |
| Vibration | | | 3 | | | | | | | |
| Shock (Mechanical) | | | 4 | | | | | | | |
| Thermal Shock | | | | 5 | | | | | | |
| Humidity | | | | 6 | | | | | | |
| Temperature life | | | | | 5 | | | | | |
| Salt Spray(Only For Gold Plating) | | | | | | 3 | | | | |
| Solder ability | | | | | | | 1 | | | |
| Terminal / Housing Retention Force | | | | | | | | 1 | | |
| Hand Soldering Temperature Resistance | | | | | | | | | 2 | |
| Sample Size | 2 | 4 | 4 | 4 | 4 | 4 | 2 | 4 | 4 | |

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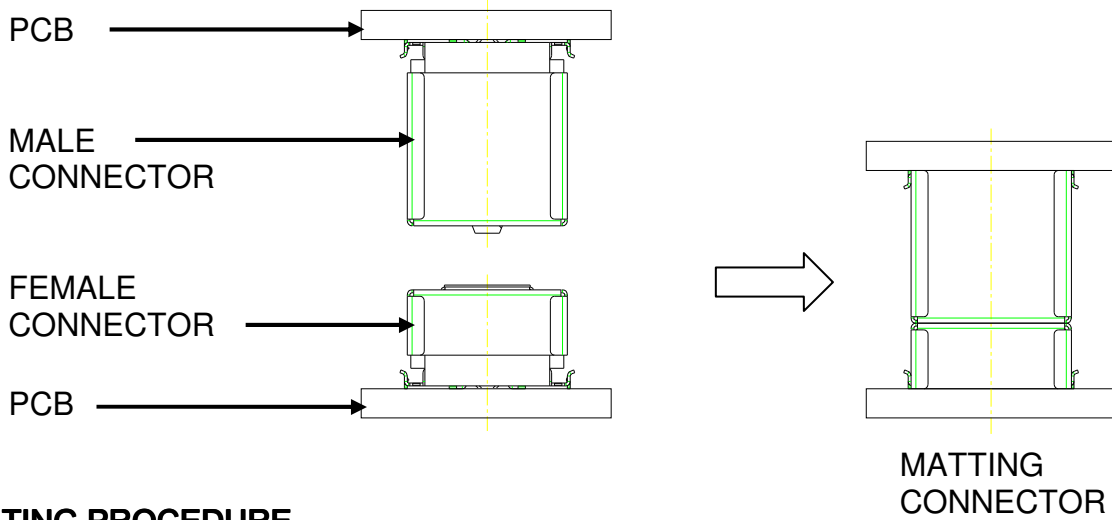
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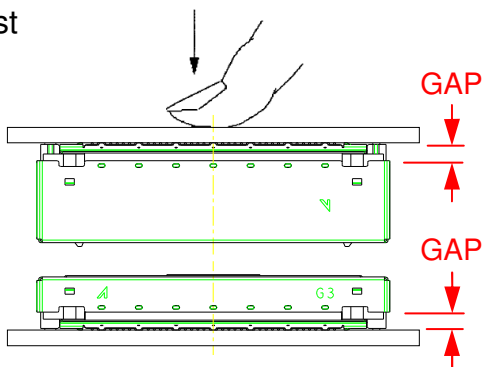
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8. CONNECTOR USAGE

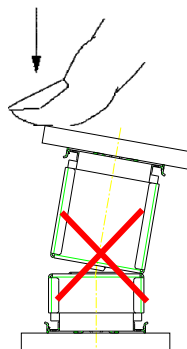
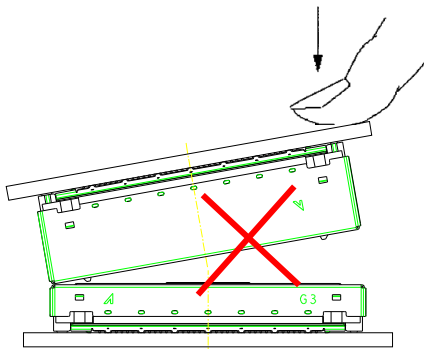
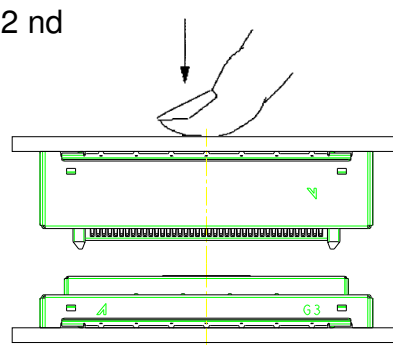


MATING PROCEDURE

1 st



2 nd



UNMATING PROCEDURE

