

SPEC. NO.: PS - 50116-XXXXX-XXX

REVISION: 0

PRODUCT NAME: 0.8mm pitch Board To Board CONN

PRODUCT NO: 50116-xxxxx-xxx series.

| | | |
|--|---|---|
| PREPARED: Keen DATE: 2008.11.13 | CHECKED: WGCH DATE: 2008.11.13 | APPROVED: JASON.C DATE: 2008.11.13 |
|--|---|---|

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Aces P/N: **50116 series**

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1 Revision History

| Rev. | ECN # | Revision Description | Approved | Date |
|-------------------|-----------------------------|-----------------------------|----------------------|--------------------------|
| O | ECN-0812153 | New drawing | Keen | 08/12/17 |
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2 SCOPE

This specification covers performance, tests and quality requirements for [This specification covers the 0.8mm pitch BOARD TO BOARD CONNECTOR series. Aces's P/N 50116-xxxx series, 50116 Lead-Free, 50111 series.](#)

3 APPLICABLE DOCUMENT

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
Finish: See order information
- 4.2.2 Housing: Thermoplastic or Thermoplastic High Temp., UL94V-0

4.3 Ratings

- 4.3.1 Voltage: **100 Volts AC (per pin)**
- 4.3.2 Current: **0.5 A [AC(rms)/DC]**
- 4.3.3 Operating Temperature : **-40°C to +85°C**

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. |

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| Item | Requirement | Standard |
|-------------------------------------|--|---|
| Low-signal Level Contact Resistance | 40 m Ω Max. Change allowed | Mate connectors, measure by dry circuit, 20mV Max., 10mA 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 | 250 VAC Min. at sea level for 1 minute. No discharge, flashover or breakdown. Current leakage: 1 mA max. | Test between adjacent contacts of unmated connectors. (EIA-364-20) |

MECHANICAL

| | | |
|--|--|---|
| 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 Force:85gf Max./CKT Unmating Force:12gf Min./CKT | 25.4 \pm 3 mm/minute.. Measure the force required to mate/Unmate connector. (EIA-364-13) |
| Terminal / Housing Retention Force | 0.4 Kgf Min. | Apply axial pull out force at the speed rate of 25.4 \pm 3 mm/minute. On the terminal assembled in the housing. |
| Fitting Nail / Housing Retention Force | 0.15Kgf Min. | Apply axial pull out force on the terminal assembled in the housing at a rate of 25 \pm 3 mm/min. |
| 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 |

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| | | 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 | | |
| Resistance to Reflow Soldering Heat | See Product Qualification and Test Sequence Group 9 (Lead Free) | Pre Heat : 150°C Max, 90sec Min. Heat : 200°C Min., 30sec Min. Peak Temp. : 260°C \pm 5°C, 10sec |
| Thermal Shock | See Product Qualification and Test Sequence Group 3 | Mate module and subject to follow condition for 5 cycles. 1 cycles: -40 +0/-3 °C, 30 minutes +85 +3/-0 °C, 30 minutes (EIA-364-32, test condition A) |
| Humidity | See Product Qualification and Test Sequence Group 3 | Mated Connector 25~65°C, 90~95% RH, 10 Cycles Refer to Method IV. (EIA-364-31, Test condition A) |
| Temperature life | See Product Qualification and Test Sequence Group 4 | Subject mated connectors to temperature life at 85°C for 96 hours . Measure Signal. (EIA-364-17, Test condition A) |
| Salt Spray | See Product Qualification and Test Sequence Group 5 | Subject mated/unmated connectors to 5% salt-solution concentration, 35°C for 8 hours . (EIA-364-26, Test condition B) |
| Solder ability | Solder able area shall have minimum of 95% solder coverage. | Subject the test area of contacts into the flux for 5-10 sec. And then into solder bath, Temperature at 245 \pm5°C , for 4-5 sec. (EIA-364-52) |

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

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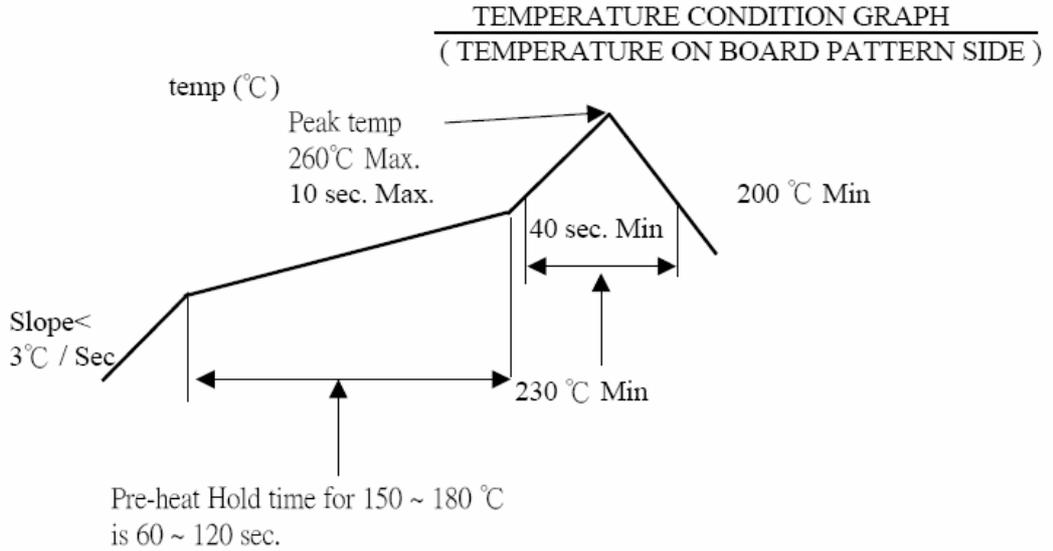
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6.FRARED REFLOW CONDITION

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 | 10 |
| | Test Sequence | | | | | | | | | |
| Examination of Product | | | 1、7 | 1、6 | 1、4 | | | 1 | | |
| Low-signal Level Contact Resistance | 1、5 | 1、4 | 2、10 | 2、9 | 2、5 | | | 3 | | |
| Insulation Resistance | | | 3、9 | 3、8 | | | | | | |
| Dielectric Withstanding Voltage | | | 4、8 | 4、7 | | | | | | |
| Mating / Unmating Forces | 2、4 | | | | | | | | | |
| Durability | 3 | | | | | | | | | |
| Vibration | | 2 | | | | | | | | |
| Shock (Mechanical) | | 3 | | | | | | | | |
| Thermal Shock | | | 5 | | | | | | | |
| Humidity | | | 6 | | | | | | | |
| Temperature life | | | | 5 | | | | | | |
| Salt Spray | | | | | 3 | | | | | |
| Solder ability | | | | | | 1 | | | | |
| Terminal / Housing Retention Force | | | | | | | 1 | | | |
| Fitting Nail /Housing Retention Force | | | | | | | 2 | | | |
| Resistance to Soldering Heat | | | | | | | | 2 | | |
| | | | | | | | | | | |
| Sample Size | 4 | 4 | 4 | 4 | 4 | 2 | 4 | 4 | | |