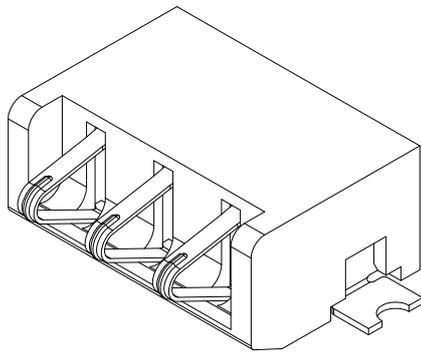
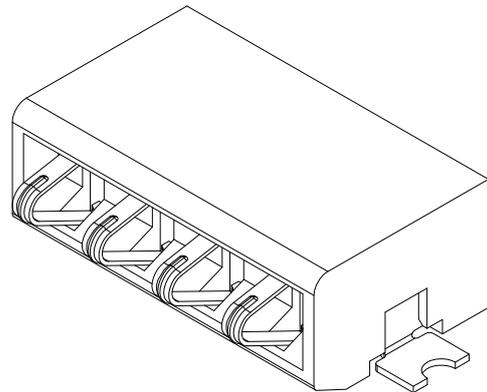




PRODUCT SPECIFICATION



BTM15-A4-R002X



BTM15-A4-R102X

育鼎精密工業股份有限公司
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東莞愷興電子科技電子有限公司

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|-------------------|----------------------|-----------------------|--------------|--|-------------------|
| REVISION: | ECR/ECN INFORMATION: | | PRODUCT NO | BTM15-A4-RX02X | SHEET No |
| A | EC No: | 2007/03/30 | PRODUCT NAME | 2.5mm PITCH 3 CKT BATTERY CONNECTOR | 1 of 6 |
| | DATE: | | | | |
| DOCUMENT NUMBER: | | CREATED / REVISED BY: | | CHECKED BY: | APPROVED BY: |
| PS-BC-0030 | | ANNE.YANG | | RYAN.WU | TONY.CHANG |



PRODUCT SPECIFICATION

1. SCOPE

This specification defines the performances for 3CKT battery connector.

2. PRODUCT DESCRIPTION:

This product consists of well performance cu-alloy terminals, thermoplastic housing. The product covers Au plating on contact position.

3. APPLICABLE DOCUMENTS AND SPECIFICATIONS

See product drawing and other sections of this specification for the relevant reference documents and specifications. In cases where the specification differs from the product drawings, the product drawings take precedence.

4. MATERIALS

A. Contact: BeCu alloy, 15u" Au plating on contact area;
Tin on solder tail and Gold flash

B. Metal Hold: Brass, 100u" Min. Tin on solder tail, and Nickel plating all over.

C. Housing: Nylon, Black, UL94V-0.

5. RATINGS

VOLTAGE:

12 VOLTS RMS AT SEA LEVEL

CURRENT:

2.0 AMPS

TEMPERATURE:

Operating Temperature Range: - 40°C to + 85°C

Storage Temperature Range: - 40°C to + 85°C

| | | | | | |
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PRODUCT SPECIFICATION

6. PERFORMANCE (Test Requirements and procedures Summary)

| | Test Items | Requirement | Procedures |
|---|------------------------|--|--|
| 1 | Examination of Product | Meets requirements of product drawing. No physical damage. | specimens shall be investigated by 10x (or higher) microscope. |

Electrical Requirements

| | Test Items | Requirement | Procedures |
|---|---------------------------------|--|---|
| 2 | Contact Resistance (Low Level) | 40 milliohms Max (initial) Δ R: 20 milliohms Max (change from initial) | Subject mated contacts assembled in housing to 20mV maximum open circuit at 100mA maximum. PER EIA 364-23 |
| 3 | Insulation Resistance | 500Megohms MIN | After 500 VDC for 1 minute, measure the insulation resistance between the adjacent contacts of mated and unmated connector assemblies. PER EIA 364-20 |
| 4 | Dielectric Withstanding Voltage | No breakdown; current leakage < 5mA | Apply a voltage 1000 VAC for 1 minute between adjacent terminals and between terminals to ground. PER EIA 364-21 |
| 5 | Current Rating | Temperature rise: +30°C maximum | Apply the rated current to connector, PER EIA 364-70 |

Mechanical Requirements

| | Test Items | Requirement | Procedures |
|----|--------------------|---|--|
| 6. | Durability | Δ R: 20 milliohms Max (change from initial) | Mate connectors up to 10000 cycles at a maximum rate of 30 cycles per minute. At 0.45 mm from housing surface. (See APPENDIX1.) PER EIA 364-09 |
| 7. | Vibration (Random) | Δ R: 20 milliohms Max (change from initial) & Discontinuity < 1 microsecond | Mate connectors up to 10~55~10 HZ , 3 mutually perpendicular planes, 20 minute per cycle (Random) PER EIA 364-28; Test condition I |
| 8. | Shock (Mechanical) | Δ R: 20 milliohms Max (change from initial) & Discontinuity < 1 microsecond | Mate connectors and shock at 100 g's with ½ sine wave (6 milliseconds) shocks in the $\pm X, \pm Y, \pm Z$ axes (18 shocks total). PER EIA 364-27; Test Condition C |
| 9. | Normal Force | 0.55N Min. at 0.9mm from housing. | Apply a perpendicular force at 0.9mm from housing. |

| | | | | | |
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PRODUCT SPECIFICATION

| | | | |
|---------------------------------|--|---|--|
| 10. | Terminal Retention Force (in Housing) | 0.3 Kgf Minimum retention force | Axial pullout force on the terminal and nail in the housing at a rate of 25 ± 3 mm per minute. PER EIA 364-29 |
| Environment Requirements | | | |
| | Test Items | Requirement | Procedures |
| 11. | Shock (Thermal) | No physical damage | Test the mated connector with 5 cycles. One duration: -55°C/1.5hours. 85°C/1.5hours. Per EIA-364-32 |
| 12. | Static Humidity | △R: 20 milliohms Max (change from initial) & Appearance: no damage | Expose to a temperature of 50 ± 2°C with a relative humidity of 90-95% for 96 hours. Note: Remove surface moisture and air dry for 1 hour prior to measurements. PER EIA 364-31 |
| 13. | Solderability | Solder coverage: 95% MINIMUM | Dip solder tails into the molten solder(held at 245±5°C for 3 ±0.5 sec. PER EIA 364-52 |
| 14. | Solder Heat Resistance | Visual: No Damage to insulator material | Place connector o applicable P.C.B footprint and float on solder bath at 260±5°C for 10±2 seconds. (See Fig 2)PER EIA 364-56 |
| 15. | Salt Spray | △R: 20 milliohms Max (change from initial) & Appearance: no damage | Duration: 48 hours exposure; Atmosphere: salt spray from a 5% solution;Temperature: 35 +1/-2°C PER EIA 364-26 |
| 16. | Temperature Life (Steady State) | △R: 20 milliohms Max (change from initial) & Appearance: no damage | 85°C for 240 hours PER EIA 364-17 |

| | | | | | |
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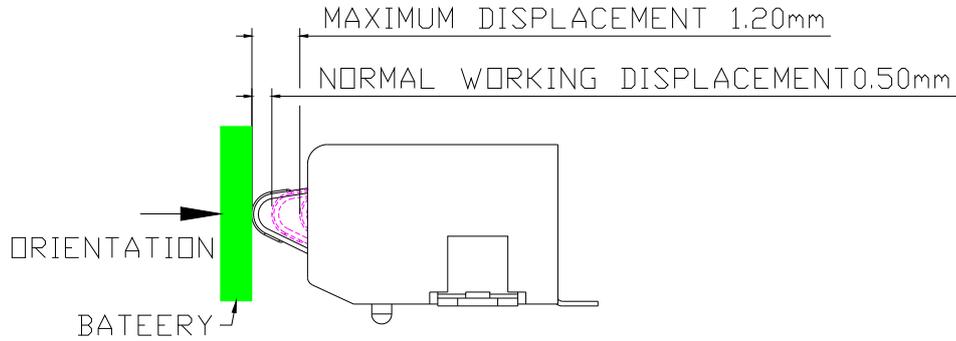
PRODUCT SPECIFICATION

7. PRODUCT QUALIFICATION TEST SEQUENCE

| Test Items | Test Group | | | | | | | | |
|--|---------------|------|-----|------|------|----|--|--|--|
| | 1 | 2 | 3 | 4 | 5 | 6 | | | |
| | Test Sequence | | | | | | | | |
| Examination of product | 1,8 | 1,12 | 1,9 | 1,10 | 1,10 | | | | |
| Contact Resistance (LLCR) | 2,7 | 3,11 | 3,8 | 3,9 | 3,9 | | | | |
| Insulation Resistance | | 4,10 | 4 | 4,8 | 4,8 | | | | |
| Dielectric Withstanding Voltage | | 5,9 | 7 | 5,7 | 5,7 | | | | |
| Current Rating | | | | | | ~ | | | |
| Durability | | 7 | | | | | | | |
| Vibration (Random) | 5 | | | | | | | | |
| Shock (Mechanical) | 4 | | | | | | | | |
| Normal Force | 6 | 6,8 | | | | | | | |
| Retention force | | | | | | ~ | | | |
| Shock (Thermal) | | | 5 | | | | | | |
| Static Humidity | | | 6 | | | | | | |
| Solderability | | | | | | ~ | | | |
| Solder Heat Resistance | 3 | 2 | 2 | 2 | 2 | | | | |
| Salt Spray | | | | 6 | | | | | |
| Temperature Life | | | | | 6 | | | | |
| Sample Size | 5 | 5 | 5 | 5 | 5 | 10 | | | |

| | | | | | |
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8. APPENDIX 1



9. RECOMMENDED REFLOW PROFILE

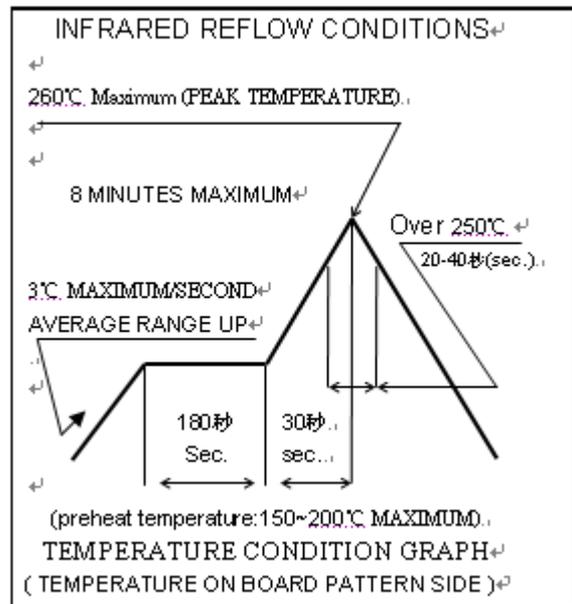


Fig2

| | | | | | |
|-------------------|----------------------|-----------------------|--------------|--|-------------------|
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