



PRODUCT SPECIFICATION

PRODUCT NAME: 6 PIN 2.5mm BATTERY CONNECTOR

PRODUCT NO: BTM13 series

	APPROVED	CHECKED	PREPARED
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1. SCOPE

This specification defines the performances for 6 pin 2.5mm pitch battery connector.

2. PRODUCT DESCRIPTION:

This product consists of well performance cu-alloy terminals, board-lock, and thermoplastic housing. The product covers Au plating on contact position. Product Number:

1. BTM13-A4-R0030

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, 30u" Au plating on contact area; Gold(au) flash on solder tail
- B. Board-Lock: Brass, 100u" Min. Tin on solder tail, and Nickel plating all over.
- C. Housing: LCP, Black, UL94V-0.

5. RATINGS

VOLTAGE:

12 VOLTS RMS AT SEA LEVEL

CURRENT:

1.0 AMPS

TEMPERATURE:

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

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

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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) ΔR : 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	ΔR : 20 milliohms Max (change from initial)	Mate connectors up to 5000 cycles at a maximum rate of 30 cycles per minute. At 0.50mm from housing surface. (See fig1.) PER EIA 364-09
7.	Vibration (Random)	ΔR : 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)	ΔR : 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

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9.	Normal Force	100g Min per pin. at 0.7mm from housing.	Apply a perpendicular force at 0.7mm from housing.
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 on 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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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	3	3	3	3	3	5			

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8. APPENDIX 1

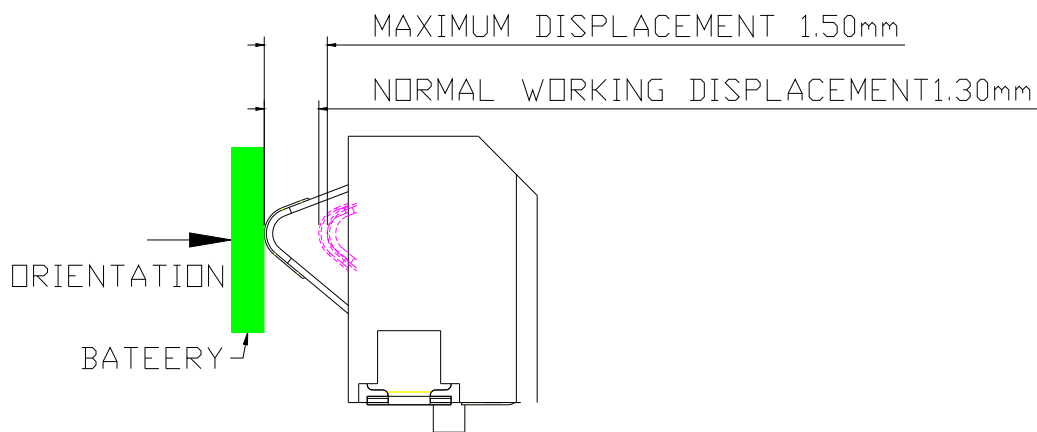


Fig1

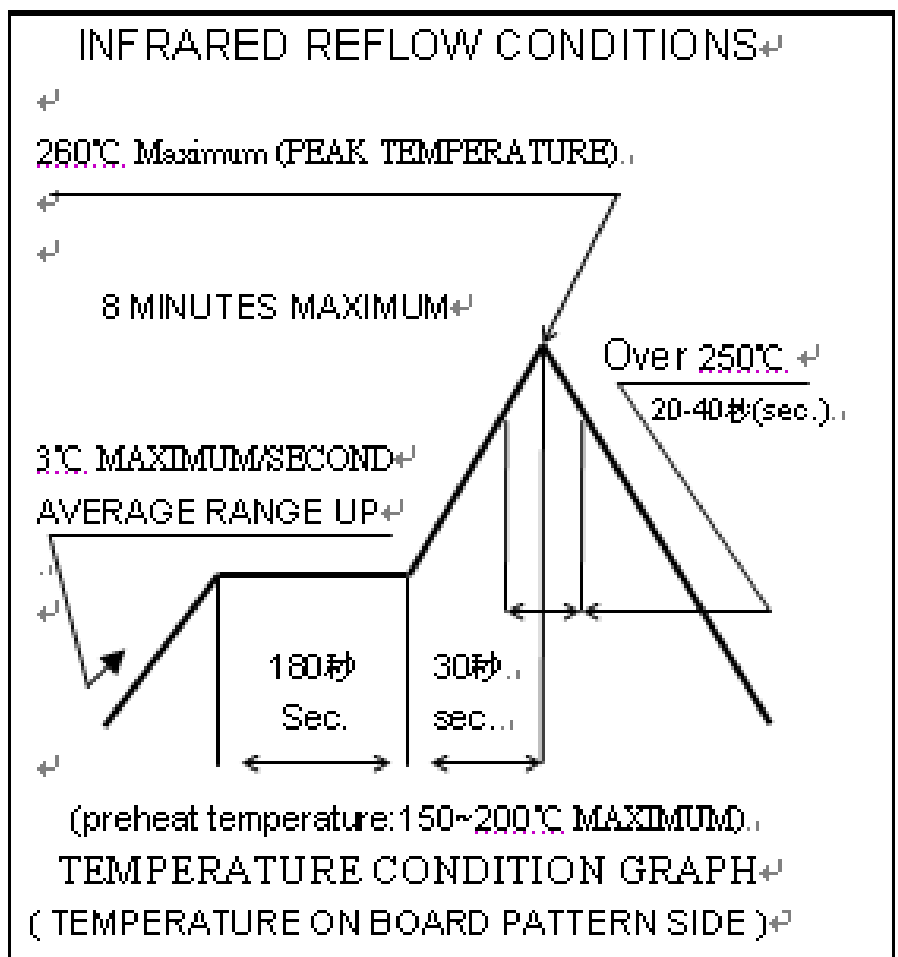


Fig2

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