To Micro Power

SPECIFICATIONS

Part No. : ED2F103A2-71044

Spec. No. : S05-3005

CHECKED BY	SUBMITTED BY

SEMITEC® Ishizuka Electronics Corporation

様式 QA124-4

SPECIFICATIONS	Customer's Part No.:	Approved	Checked	Drawn
		May.24.'05	May.24.2005	May.24.'05
Application; Battery pack	Part No.; ED2F103A2-71044	Y.Suzuki	T.Aizawa	Y.Ohtsuka

1. Scope
This specification defines ratings, dimensions, electrical properties, mechanical properties and climatic properties for this thermistor.

2. Part No.

ED2F103A2-71044

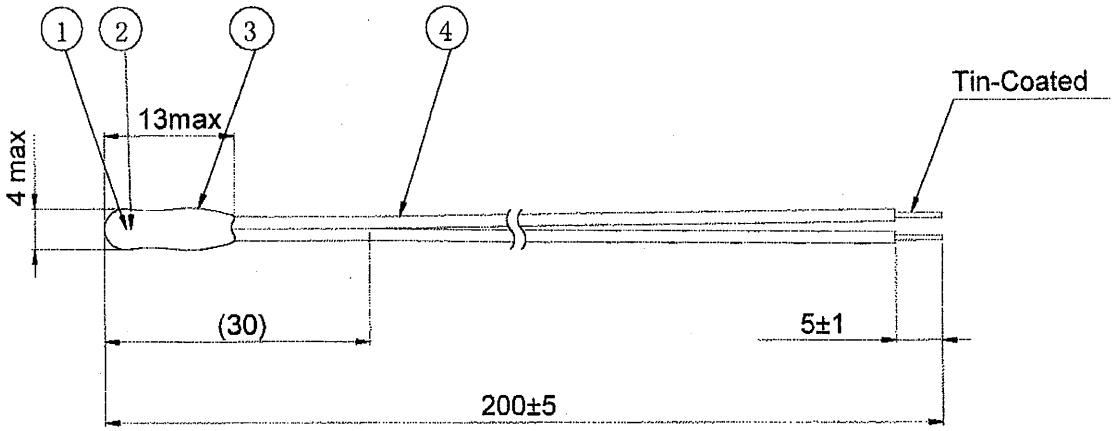
3. Ratings

Items	Ratings	Remarks
3.1 Rated zero-power resistance R_{25}	10.0kΩ	The rated zero-power resistance is measured at 25℃
3.2 Tolerance of rated zero-power resistance R_{25}	±1%	
3.3 Rated B-value $B_{25/85}$	3 435K	The rated B-value is calculated with the zero-power resistance values measured at 25℃ and 85℃
3.4 Tolerance of rated B-value $B_{25/85}$	±1%	
3.5 Dissipation factor	Approx.4 mW/℃	In still air at 25℃
3.6 Thermal time constant	Approx.35 s	In still air
3.7 Rated power	20 mW	Measured in still air at 25℃, permissible self-heat of approx. 5℃

4. Operating temperature range −20℃~90℃

5. Dimensions

Unit (mm)



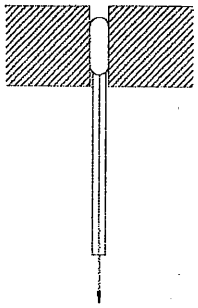
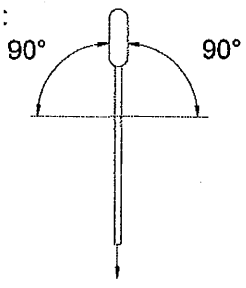
No.	Part name	Specifications
①	Thermistor	103AT Chip
②	Solder	Lead free
③	Coating	Epoxy resin Color:Black
④	Lead-Wire	105℃ PVC wire 0.14sq(7/0.16)

6. Electrical properties

Items	Test conditions	Criteria
6.1 Voltage proof	AC 600V 1s	Less than 1mA
6.2 Insulation resistance	DC 500V	Minimum 100MΩ

Test voltage shall be applied between the top of the epoxy resin and terminals of lead-wire.

7. Mechanical properties

Items	Test conditions	Criteria
7.1 Robustness of terminations	Hold the epoxy resin so that the lead wire shall be vertical. After 5N loading weight is applied to the lead wire vertically for 1s. Tensiie:  5N 1s	The change ratio of R_{25} and $B_{25/85}$ shall be within ±1% of the initial value.
	Hold the epoxy resin with applying 1N loading weight of tensile force to the lead wire vertically. Two consecutive bends shall be applied to the thermistor body as follows; ① Bend it to 90°and then return to the original position. ② Bend it same as ① in the opposite direction. Bending:  90° 90° 1N	

Items	Test conditions	Criteria
7.2 Free fall	One time of free-fall to a maple board from 0.75m high.	The change ratio of R_{25} and $B_{25/85}$ shall be within ±1% of the initial value.
7.3 Vibration	The samples shall be fixed to be vibrated in the frequency of 10Hz to 500Hz and whichever smaller of 1.5mm peak-to-peak or 10G acceleration for around 15min with 10Hz- 500Hz-10Hz of sweeping ratio. After applying vibration to each direction (X,Y and Z) for 2h, 6h in total.	
7.4 Resistance to soldering heat	Terminals of lead-wire shall be immersed into a soldering bath at 260°C±5°C for 10s±1s.	
7.5 Solderability	Using flux specified in JIS C2570, lead-wires of a test sample shall be immersed one time into a soldering bath at 245°C±5°C for 2.5s±0.5s.	The area soldered newly shall be more than 90%.

8. Climatic properties

Items	Test conditions	Criteria
8.1 Cold	At −20°C±2°C for 1 000h.	After stored at room temperature and humidity for 1h, the change ratio of R_{25} and $B_{25/85}$ shall be within ±2% of the initial value. (Room temperature and humidity: 25°C±10°C, 25%RH−75%RH)
8.2 Dry heat	At 90°C±2°C for 1 000h.	
8.3 Dry heat load	At 90°C±2°C with the DC 1mA for 1 000h.	
8.4 Rapid change of temperature	One cycle of rapid change of temperature shall be proceeded in order of the following conditions. ・At −20°C±2°C for 5min. ・At room temperature for 1min. ・At 70°C±2°C for 5min. ・At room temperature for 1min. 5cycles of rapid change of temperature are applied to a test sample.	
8.5 Damp heat	At 40°C±2°C,90%RH−95%RH for 1 000h.	
8.6 Humidity load	At 40°C±2°C,90%RH−95%RH with the DC 1mA for 1 000h.	

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	Part No.	ED2F103A2-71044

Revision records

Revision No.	Date	Revised by	Revision item	Former specification	New specification
A					
B					
C					
D					
E					
F					
G					
H					
I					
J					