THERMISTOR SPECIFICATIONS

1. Scope

This specifications define ratings, dimensions, electrical properties, mechanical properties and climatic properties for AT-4 type thermistor.

2. Part No. **103AT-4-70316**

3. Ratings

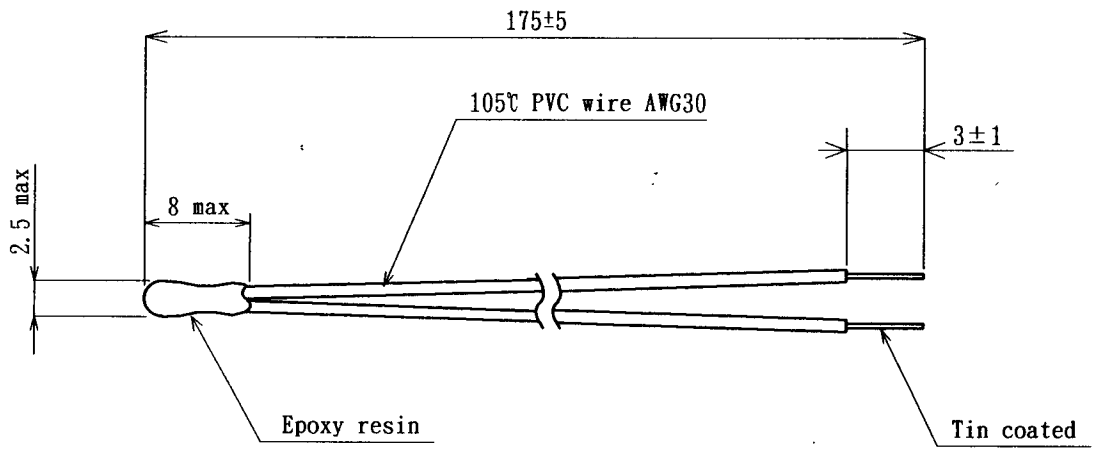
3.1 Rated zero-power resistance.	R_{25}	10.0 kΩ ± 1 %	(at 25 ℃)
3.2 Rated B-value.	$B_{25/85}$	3 435 K ± 1 %	

* The rated B-value is calculated using the rated zero-power resistance values measured at 25℃ and 85℃.

3.3 Dissipation factor.	Approx. 2	mW/℃	(in air)
3.4 Thermal time constant.	Approx. 10	s	(in air)
3.5 Maximum power dissipation.	10	mW	(in air at 25℃)
4. Category temperature range (= Operating temperature range)	-30℃ ~ 90 ℃		

5. Dimensions

Unit(mm)



Spec. No. : S97-0316	Note	Revision	
Date: Sep. 10, 1998		A	
Approved 大沢 / Checked 青 / Drawn M. SATO		B	
		C	

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6. Properties

6.1 Electrical properties (between thermistor body and tin coated terminals)

6.1.1 Insulation resistance Above 100 MΩ at DC 100V.

6.1.2 Voltage proof AC 100V for one second.

6.2 Mechanical properties

6.2.1 Robustness of terminations

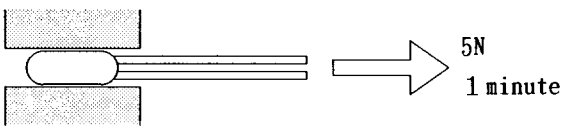
a) Tensile to holizontal direction

Hold the thermistor body so that lead wire shall be holizontal.
After 5N loading weight was applied to the lead wire holizontally for one minute, there shall be no visible damage.

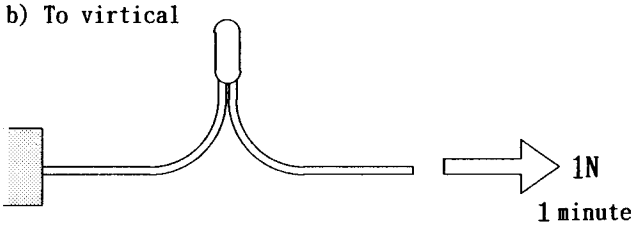
b) Tensile to vertical direction

One of lead wires is fixed, another one is slowly loaded the tension of one newton and keep this tension for one minute.
After test, the change ratio of R_{25} shall be within ±2% of the initial value and there shall be no visible damage.

a) To horizontal



b) To virtical



6.2.2 Free fall

After three times natural fall to a maple board from 75cm high, there shall be no visible damage.

6.2.3 Resistance to soldering heat

Terminals of lead wire are immersed in solder bath at 260±5℃ for 10±1 seconds. After being stored in room temperature and humidity for harf hours, the change ratio of R_{25} shall be within ±2% of the initial value.

6.2.3 Solderability

Tarminals of lead wire are immersed in solder (P_b:S_n=4:6) bath at 235±5℃ for 2±0.5 seconds.
Surface of terminal should be soldered more than 90%.

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6.3 Climatic properties

6.3.1 Cold

Test samples shall be exposed in air at −40℃ for 1 000 hours.
After being stored in room temperature and humidity for one hour, the change ratio of R_{25} shall be within ±2% of the initial value.

6.3.2 Dry heat

Test samples shall be exposed in air at 90 ℃ for 1 000 hours.
After being stored in room temperature and humidity for one hour, the change ratio of R_{25} (zero-power resistance at 25℃) shall be within ±2% of the initial value.

6.3.3 Rapid change of temperature

One cycle of the change of temperature shall be proceeded in the order of the following conditions.

- At -20℃, for 5 minutes.
- Room ambient temperature, for one minute.
- At 70℃, for 5 minutes.
- Room ambiant temperature. for one minute.

100 cycles of change of temperature shall be applied to the test samples.
After being stored in room temperature and humidity for one hour, the change ratio of R_{25} shall be within ±2% of the initial value.

6.3.4 Damp load

DC 1mA current shall be applied to the test samples in the temperature of 40℃ and relative humidity of 95%RH for 1 000 hours.
After being stored in room temperature and humidity for one hour, the change ratio of R_{25} shall be within ±2% of the initial value.

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