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THERMISTOR SPECIFICATIONS

1. SCOPE

This specifications define rating, dimensions, insulation, climatic tests and mechanical characteristics for AT-4 type thermistor.

2. PART NO. : 103AT-4-040

3. RATINGS

3-1. Rated zero-power resistance. R_{25} : 10.0 kΩ ± 1 % (at 25 ℃)

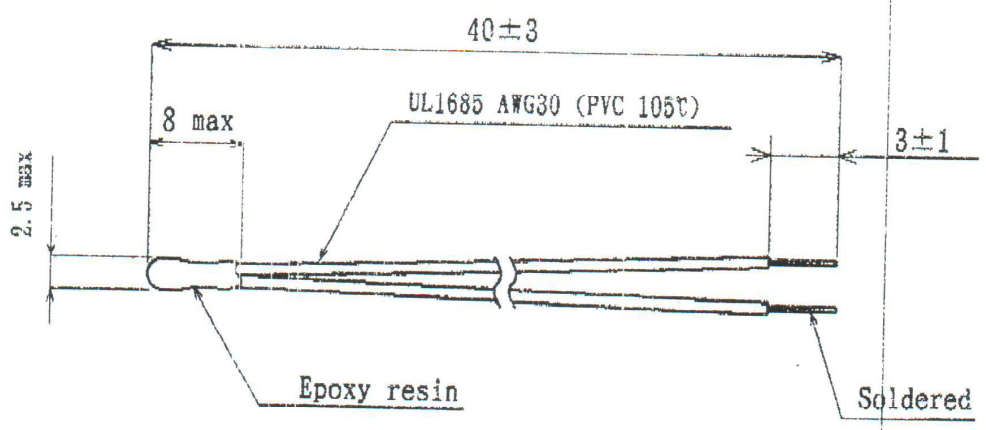
3-2. B-value. $B_{25/85}$: 3435 K ± 1 %

* The B-value is calculated using the 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 rating.	:	10	mW	(in air at 25℃)
3-6. Category temperature range (= Operating temperature range)	:	-30 to 90	℃	

4. DIMENSIONS

Unit:[mm]



Spec. No. : STANDARD	Note	Revision	
Date: Aug. 22, 1996		A	
Approved	Checked: 98.8.23	Drawn: M. Sato	Design sec.	B	
98.8.23				C	

6 Electrical properties (between thermistor body and tinnedovercoat terminals)

6.1 Insulation resistance : above 100 MΩ at DC 100V.

6.2 Voltage proof : AC 100V for 1 second.

7. Mechanical properties

7.1 Robustness of terminations

a) Tensile to holizontal direction

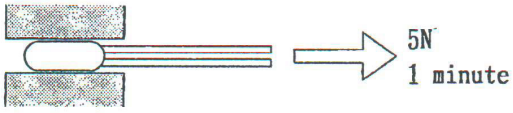
Hold the thermistor body (the epoxy part) and pull the leadwires with 5N loading weight in the horizontal direction. The sensor shall be pulled in this manner for one minuite. Upon completion, the sensor shall show no visible damage.

b) Tensile to vertical direction

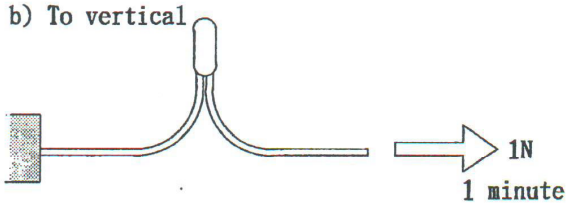
Hold one end of the leadwires still and slowly pull the other one, with 1N loading weight. The leadwire shall be pulled in this fashion for one minuite.

Upon completion, the sensor shall show no visible damage, and the change ratio of the R_{25} and the ratcd B-value shall remain within ±2% of the initial value.

a) To horizontal



b) To vertical



7.2 Resistance to soldering heat

Terminals of the leadwires are immersed in the solder bath at 260±5℃ for 10±1 seconds.

After being stored in room temperature and humidity for 0.5 hour, the change ratio of the rated R_{25} and the rated B-value shall remain within ±2% of the initial value.

7.3 Solderability

Terminals of leadwires are immersed in the solder (Pb:Sn=4:6) bath at 235±5℃ for 2±0.5 seconds.

Surface of the terminals should be soldered more than 90%.

7.4 Free fall

Test samples shall be given 3 natural falls from 75cm high onto a maple board. Upon completion, the samples shall show no visible damage.

8. Climatic properties

8.1 Dry heat

Test samples shall be exposed in air at 90℃ for 1,000 hours. After being stored in the 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.

8.2 Cold

Test samples shall be exposed to in air at -40℃ for 1,000 hours. After being stored in the room temperature and humiditiy for one hour, the change ration of R_{25}(zero-power resistance at 25℃) shall be within ±2% of the initial value.

8.3 Damp load

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

8-4 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 tempeature for one minute
- at 70℃ for 5 minutes
- Room ambient tempeature for one minute

100 cycle of the change of the temperature shall be applied to test samples. After being stored in the room temperature and humidity for one hour, the change ration of R_{25}(zero-power resistance at 25℃) shall be within ±2% of the initial value.