

## THERMISTOR SPECIFICATIONS

### 1) SCOPE

This specifications defines rating, dimensions, insulation, climatic sequence and mechanical characteristics for AT type thermistor.

2) PART NO. : **103AT-2B**

### 3) RATING

3-1) Rated zero-power resistance.  $R_{25}$  : 10.182 [k $\Omega$ ]  $\pm$  1[%] (at 25[ $^{\circ}$ C])

3-2) B value.  $B_{25/85}$  : 3,435[K]  $\pm$  1[%]

\* The B value is calculated using the zero-power resistance values measured at 25 $^{\circ}$ C and 85 $^{\circ}$ C.

3-3) Dissipation factor. : Approx. 2 [mW/ $^{\circ}$ C] (in air)

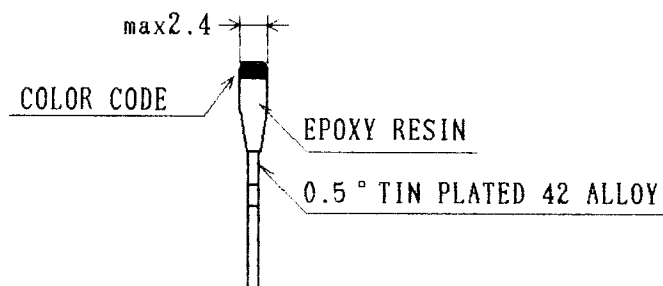
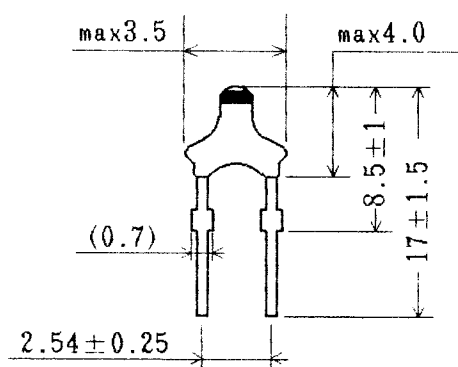
3-4) Thermal time constant. : Approx. 15 [s] (in air)

3-5) Maximum power rating. : 10 [mW] (at 25 $^{\circ}$ C)



3-6) Category temperature range : -50  $\sim$  110 [ $^{\circ}$ C]

(= Operating temperature range)

### 4) DIMENSIONS [mm]



COLOR CODE : White (This indicates 103AT-2B thermistor.)

Spec.NO.: S91-244		Note	Correcting	
Date : Jul 09 1991			A	
Approved	Checked	Drawn Y. TANAKA	B	
			C	

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**5) INSULATION****5-1) Insulation resistance**

Insulation resistance of the test samples shall be over 100 M $\Omega$  when it is measured at DC 500V between coated area and lead wires.

**6) CLIMATIC SEQUENCE****6-1) Dry heat**

After the test samples were exposed in air at 110 °C for 1,000 hours, the change ratio of the rated zero-power resistance shall be within  $\pm 1\%$  of the initial value.

**6-2) Damp heat**

After the test samples were exposed in the humidity of 95% at 70°C for 1,000 hours, the change ratio of the rated zero-power resistance shall be within  $\pm 1\%$  of the initial value.

**6-3) Cold**

After the test samples were exposed in air at -55°C for 1,000 hours, the change ratio of the rated zero-power resistance shall be within  $\pm 1\%$  of the initial value.

**6-4) Humidity load**

After DC 1mA current was applied to the test samples in the temperature of 70°C and the humidity of 95% for 1,000 hours, the change ratio of the rated zero-power resistance shall be within  $\pm 1\%$  of the initial value.

**6-5) Change of temperature**

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

- Room ambient temperature. (Initial value)
- At -30°C, for 30 minutes.
- Room ambient temperature, for 3 minutes.
- At + 90°C, for 30 minutes.
- Room ambient temperature. for 3 minutes.

After 100 cycles of change of temperature, the change ratio of the rated zero-power resistance shall be within  $\pm 1\%$  of the initial value.

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7) MECHANICAL CHARACTERISTICS

7-1) Robustness of terminations

Ua: Tensile

After 0.2 kgf loading weight for 3 seconds was applied to the wire terminations, there shall be no visible damage.

7-2) Free fall

After one time natural fall to a maple board from 1 m high, there shall be no visible damage.

7-3) Resistance to soldering heat

After lead wire of the test samples were dipped one time within 8.5 mm from end of lead wire in solder bath at  $260^{\circ}\text{C} \pm 10^{\circ}\text{C}$  for  $10 \pm 0.5$  seconds, the change ratio of the rated zero-power resistance shall be within  $\pm 1\%$  of the initial value.

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