

**THERMISTOR SPECIFICATIONS**

1) SCOPE

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

2) PART NO. : **502AT-2**

3) RATING

3-1) Rated zero-power resistance.  $R_{25}$  : **5 k $\Omega$   $\pm$  1 % (at 25  $^{\circ}$ C )**

3-2) B value.  $B_{25/85}$  : **3,324 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)**

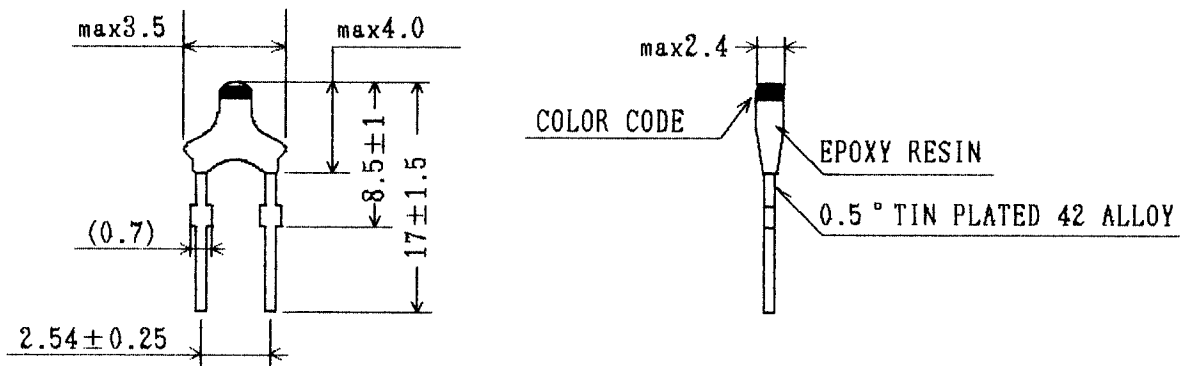
3-5) Maximum power rating. : **10 mW (at 25 $^{\circ}$ C)**

3-6) Category temperature range : **-50 ~ 110  $^{\circ}$ C**

(= Operating temperature range)

4) DIMENSIONS

UNIT:[mm]



COLOR CODE : Yellow (This indicates 502AT-2 thermistor.)

|                       |         |          |  |          |  |
|-----------------------|---------|----------|--|----------|--|
| Spec.NO.: STANDARD-01 |         | Note     |  | REVISION |  |
| Date: NOV.13,1992     |         |          |  | A        |  |
| Approved              | Checked | Drawn    |  | B        |  |
|                       |         | K.KUMADA |  | C        |  |

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5) INSULATION

5-1) Insulation resistance

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

6) CLIMATIC TEST

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 90% at 40°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  $-55^{\circ}\text{C}$  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 40°C and the humidity of 90% 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  $-30^{\circ}\text{C}$ , for 30 minutes.
- Room ambient temperature, for 3 minutes.
- At  $+90^{\circ}\text{C}$ , 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.

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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AT THERMISTOR

STANDARD

AT-00-\*\*

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