



Ishizuka Electronics Corporation

THERMISTOR SPECIFICATIONS

1) SCOPE

This specification defines rating, dimensions, insulation, climatic sequence and mechanical characteristics for ETB type thermistor.

2) PART NO. : 103ETB

3) RATING

3-1) Rated zero-power resistance. R_{25} : 10.0 k Ω \pm 2 % (at 25°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°C and 85°C.

3-3) Dissipation factor. : Approx.0.7 mW/°C (in air)

3-4) Thermal time constant. : Approx.0.8 s (in silicon oil)

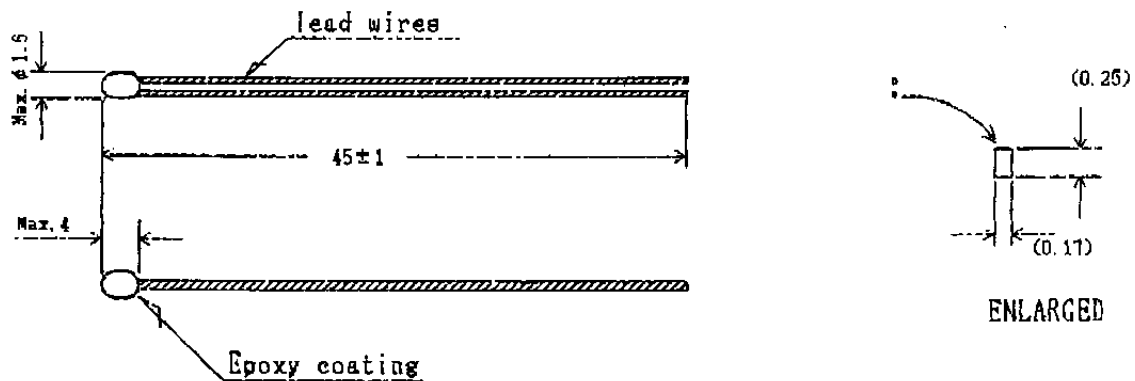
: Approx.3.4 s (in air)

3-5) Maximum power rating. : 3.5 mW (at 25°C)

3-6) Category temperature range : -40 ~ 90 °C

(= Operating temperature range)

4) DIMENSIONS [mm]



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5) CLIMATIC SEQUENCE

5-1) Dry heat

Test samples shall be exposed in air at 90 °C 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°C) shall be within $\pm 2\%$ of the initial value.

5-2) Damp heat

Test samples shall be exposed in relative humidity of 95%RH at 40°C for 1,000 hours.
After being stored in room temperature and humidity for one hour, the change ratio of R_{25} shall be within $\pm 2\%$ of the initial value.

5-3) Cold

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

5-4) Humidity load

DC 0.1mA current shall be applied to the test samples in the temperature of 40°C 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 $\pm 2\%$ of the initial value.

5-5) Rapid change of temperature

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

- Room ambient temperature. (Initial value)
- At -20°C, for 5 minutes.
- Room ambient temperature, for 3 minutes.
- At +90°C, for 5 minutes.
- Room ambient temperature, for 3 minutes.

5 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 $\pm 2\%$ of the initial value.

6) INSULATION**6-1) Insulation resistance**

Insulation resistance shall be more than 100 MΩ, which is measured at DC 500V between the thermister body and soldered terminals.

7) MECHANICAL CHARACTERISTICS**7-1) Robustness of terminations****Tensile:**

After 0.1 kgf loading weight was applied to the wire terminations for 10 seconds, there shall be no visible damage.

7-2) Free fall

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

8) SOLDERING**8-1) Resistance to soldering heat**

Soldered terminals of the test samples shall be one time immersed into solder bath at 260°C ±5°C for 10±1 seconds.

the change ratio of R_{25} shall be within ±1% of the initial value.

8-2) Solderability

Soldered terminals of the test samples shall be one time immersed into solder bath at 235°C ±5°C for 2±0.5 seconds using with the flux:rosin 25%, isopropyl alcohol 75%.

More than 75% of the part of terminals shall be covered with solder.