SEMITEC Ishizuka Electronics Corporation

THERMISTOR SPECIFICATIONS

1. Scope

This specification defines rating, dimensions, electrical properties, mechanical properties and climatic properties for the following part.

2. Part No. **103CT-20217**

3. Rating

3.1 Rated zero-power resistance. R_0 30 kΩ ± 2%(at 0℃)

R_{25} 10.74 kΩ±5%

3.2 B value. $B_{25/50}$ 3 434 K ± 2%

(The B value is calculated using the zero-power resistance values measured at 25℃ and 50℃.)

3.3 Dissipation factor. Approx. 2.0 mW/℃ (in still air at 25 **℃**)

(Measured according to JIS C 2570 13.7)

3.4 Thermal time constant. Approx. 10 s (in still air)

(A constant that represents the time required for the temperature of a thermistor to change by 63.2 % of the difference between the original temperature and the ambient temperature when the load current of the thermistor is abruptly changed from non-zero-power state to zero–power state.)

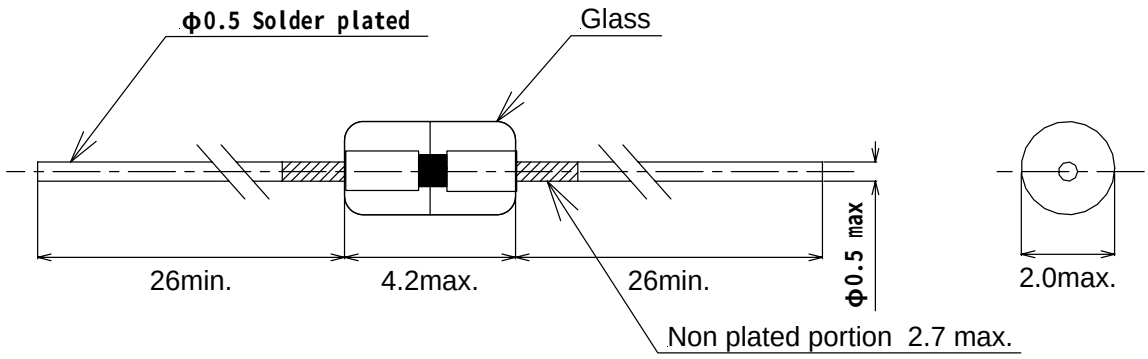
3.5 Maximum power rating. 250 mW (in still air at 25**℃**)

4. Operating temperature ranges −40℃ ～ +150℃

Spec.No : S02-0217	Note	REVISION	
Date : AUG. 26, 2002		A	
Approved: E. Yamamoto	Checked: M. Fukumoto	Drawn: M. Fukuda	B
			C

5. Dimensions

Unit:mm



6 Climatic properties

6.1 Dry heat

After the test samples were exposed in air at 150℃±5℃ for 1 000 hours, the change ratio of the rated zero-power resistance and rated B-value shall be within ±3% of the initial value.

6.2 Humidity

After the test samples were exposed in the humidity of 95%RH at 60℃±3℃ for 1 000 hours, the change ratio of the rated zero-power resistance and rated B-value shall be within ±3% of the initial value.

6.3 Cold

After the test samples were exposed in air at −40℃±5℃ for 1 000 hours, the change ratio of the rated zero-power resistance and rated B-value shall be within ±3% of the initial value.

6.4 Rapid 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 −40℃±5℃(in air), for 30 min.
- Room ambient temperature, for 5 min.
- At +150℃±5℃(in air), for 30 min.
- Room ambient temperature, for 5 min.

After 5 cycles of change of temperature, the change ratio of the rated zero-power resistance and rated B-value shall be within ±3% of the initial value.

7 Mechanical properties

7.1 Robustness of terminations

Tensile:

After 5 N loading weight for 10 seconds was applied to the wire terminations, there shall be no visible damage. And the change ratio of the rated zero-power resistance and rated B-value shall be within ±2% of the initial value.

Bending:

The wire termination shall be bent into 90° angle and bent back in one operation with being pulled by 2.5N load. After two times the test, there shall be no visible damage, and the change ratio of the rated zero-power resistance and rated B-value shall be within ±2% of the initial value.

8 Soldering

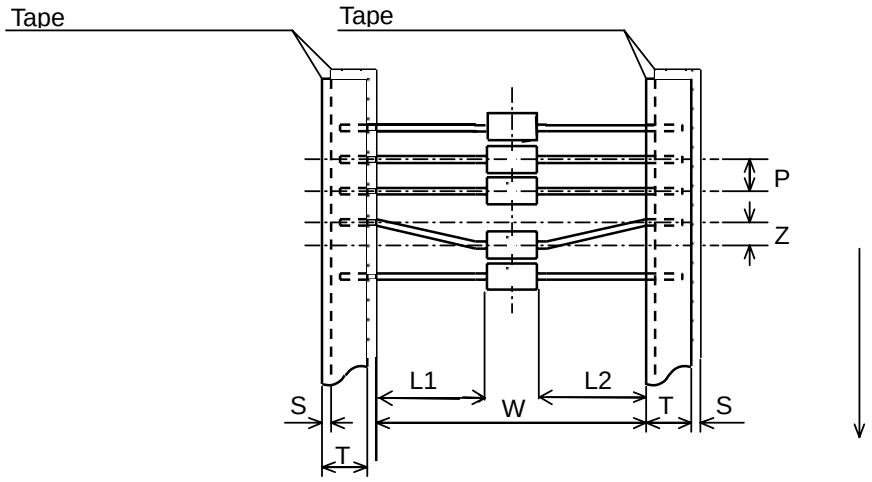
8.1 Resistance to soldering heat

After lead wire of the test samples were dipped one time within 5 mm from end of lead wire in solder bath at 260℃±5℃ for 10s±1s, there shall be no visible damage, and the change ratio of the rated zero-power resistance and rated B-value shall be within ±2% of the initial value.

8.2 Solderability

After lead wire of the test samples were dipped one time in solder bath at 235℃±5℃ for 5s±1s the ratio of soldering part on each lead wire surface shall be more than 95%.

9. Taping dimensions



Unit:mm

W	P	| L1−L2 |	T	Z	S
52+1.5/-0	5±0.5	1max.	6±1	1.2max.	0.8max.

10. Packaging

10.1 Unit of order 5 000pcs./box

10.2 Label on external box shall specify part number, contained quantity, manufacturer's lot number, and etc.

10.3 Size of internal box (to contain 5 000pcs.)

Unit:mm