出図
'04. 8. 11
設計部門

SPECIFICATIONS

Product : GT Thermistor

Part No. : GT-2 Thermistor

Spec. No. : S04-0156

Application :

ACCEPTED BY CUSTOMER
Signature

CHECKED BY	SUBMITTED BY

SEMITEC® Ishizuka Electronics Corporation

SPECIFICATIONS	User Part No.;	Approved	Checked	Drawn
Application;	Part No.; GT-2 Thermistor	H. Ishida	M. Miyake	M. Fukuda

1. Scope
This specification defines rating, dimensions, electric properties, mechanical properties and climatic properties for the following part.

2. Part No. and Rating

No.	Part No.	Zero-power resistance R25[k ohm]	Tolerance on zero-power resistance [%]	B-value B 25/85[K]	Tolerance on B-value [%]	Category temperature range [deg. C]
1	102GT-2	1.00	+/- 3	3 305	+/- 2	- 50 ~ 200
2	202GT-2	2.00		3 838		- 50 ~ 300
3	502GT-2	5.00		3 964		
4	103GT-2	10.0		4 126		
5	203GT-2	20.0		4 282		
6	503GT-2	50.0		4 288		
7	104GT-2	100		4 267		
8	104GTA-2	100		4 390		
9	204GT-2	200		4 338		
10	504GT-2	500		4 526		
11	105GT-2	1000		4 608		

(The B-value is calculated from zero-power resistance values at 25 deg. C and 85 deg. C.)

3.1 Thermal time constant — Approx. 7.0 s (in still air)

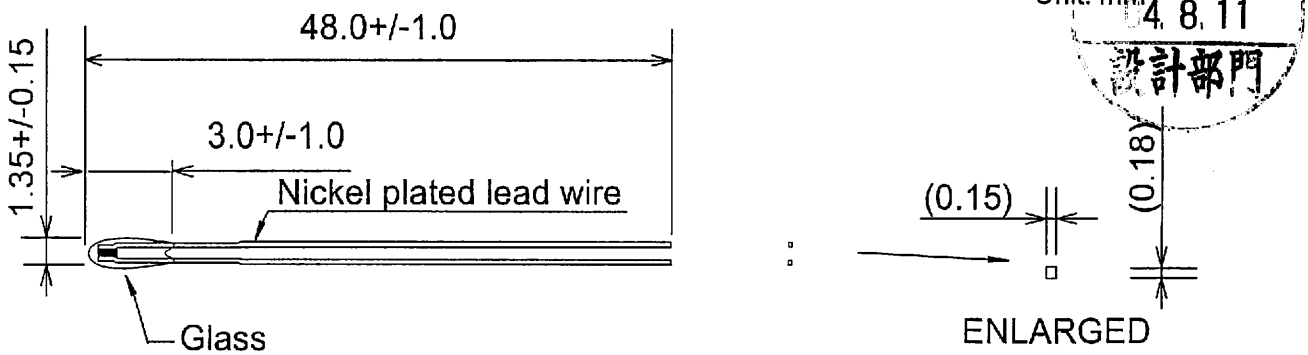
3.2 Dissipation factor — Approx. 0.6 mW/deg. C (in still air)

3.3 Rated maximum power dissipation — Approx. 3.0 mW (in still air at 25 deg.C)
(Including self-heat of approx. 5 deg. C.)

4. Storage temperature range — -10 deg. C ~ 40 deg. C

6. Dimensions

Unit: mm

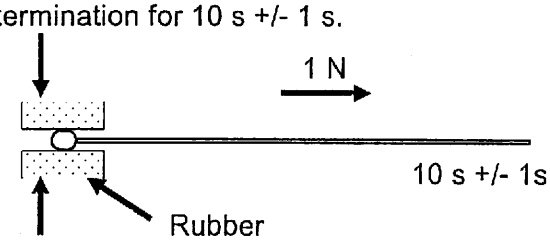
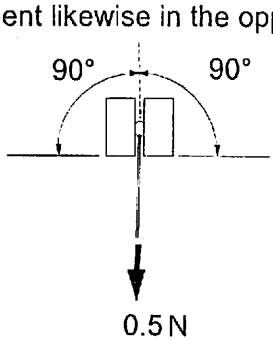


7. Properties

7.1 Electric properties

Item	Test Conditions	Criteria
7.1.1 Insulation resistance	Insulation resistance shall be exceed 100M ohm when measured with DC 500V between a glass and a lead wire.	Over 100 M ohm.
7.1.2 Voltage proof	Voltage proof between a glass and a lead wire shall be more than AC 500 V for 1 min. (Cut-off current: 1 mA)	No visible damage.

7.2 Mechanical properties

Item	Test Conditions	Criteria
7.2.1 Tensile of termination	After a weight of 1N is applied to a wire termination for 10 s +/- 1 s. 	Variation of R25 and B25/85 after the test shall be within +/- 2 % of those of the initial values. No visible damage.
7.2.2 Bending of termination	With pulling by 0.5N, a lead wire is bent to 90 degree and bent back to the original position. Then it is bent likewise in the opposite direction. 	Variation of R25 and B25/85 after the test shall be within +/- 2 % of those of the initial values. Nobreak down of lead wire allowed.

Item	Test Conditions	Criteria
7.2.3 Free fall	After three times of natural fall to a maple board from 1 m high.	Variation of R25 and B25/85 after the test shall be within +/- 2 % of those of the initial values. No visible damage.
7.2.4 Solderability	Termination of a test sample shall be immersed one time into solder bath at 245 deg. C +/- 5 deg. C for 2 s ~ 3 s. Solder : Sn-3.0Ag-0.5Cu flux : rosin 25 %, ethyl alcohol 75 %	Soldered area, shall be more than 75 %.
7.2.5 Resistance to soldering heat	Termination of a test sample shall be immersed one time into the soldering bath at 260 deg. C +/- 5 deg. C to the point 2mm from the body and hold there for 5 s +/- 1 s.	Variation of R25 and B25/85 after the test shall be within +/- 2 % of those of the initial values. No visible damage.

7.3. Climatic properties

Item	Test Conditions	Criteria
7.3.1 Cold	A test sample is exposed in air at -50 deg. C +/- 3 deg. C for 1 000 h and then stored at room temperature and humidity for 1 h.	Variation of R25 and B25/85 after the test shall be within +/- 2 % of those of the initial values.
7.3.2 Dry heat	A test sample is exposed in air at 300 deg. C (*1: 200 deg. C)+/- 3 deg. C for 1 000 h and then stored at room temperature and humidity for 1 h. (*1):102GT-2	Variation of R25 and B25/85 after the test shall be within +/- 3 %(*2: +/- 5 %) of those of the initial values. (*2):104GTA-2
7.3.3 Change of temperature	One cycle of rapid change of temperature shall be proceeded in order of the following conditions. "At room ambient temperature.(initial status)" "At -30 deg. C +/- 5 deg. C for 5 min." "At room temperature for 3 min." "At 200 deg. C(*1: 150 deg. C)+/- 5 deg. C for 5 min." "At room temperature for 3 min." 5 cycles of rapid change of temperature are applied to the test samples, and then stored at room temperature and humidity for 1 h. (*1):102GT-2	Variation of R25 and B25/85 after the test shall be within +/- 2 % of those of the initial values.

Item	Test Conditions	Criteria
7.3.4 Damp heat	A test sample is exposed in air at 70 deg. C +/- 5 deg. C, 90 %RH ~ 95 %RH for 1 000 h and then stored at room temperature and humidity for 1 h.	Variation of R_{25} and $B_{25/85}$ after the test shall be within +/- 2 % of those of the initial values.
7.3.5 Damp heat (Under loading)	A test sample is exposed in air at 70 deg. C +/- 5 deg. C, 90 %RH ~ 95 %RH with the DC 0.1 mA load for 1 000 h and then stored at room temperature and humidity for 1 h.	Variation of R_{25} and $B_{25/85}$ after the test shall be within +/- 2 % of those of the initial values.

Note

"Room temperature" is defined as the temperature between 15 deg.C to 35 deg.C.

"Room humidity" is defined as the humidity between 25 %RH to 75 %RH.

SPECIFICATIONS	User Part No.	
	Part No.	GT-2 Thermistor

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Revision records

Revision No.	Date	Revised by	Revision item	Former specification	New specification
A					
B					
C					
D					
E					
F					
G					
H					
I					
J					