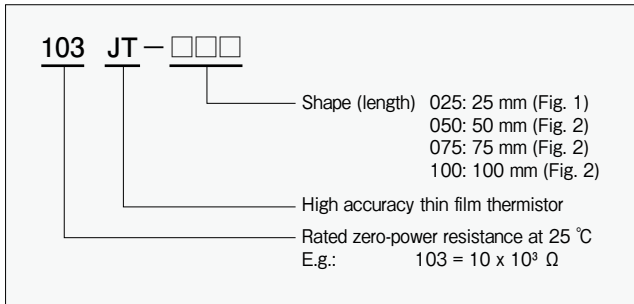


## Thin film thermistor

# JT Thermistor

The JT series thermistor features high accuracy and a thickness of less than 500  $\mu\text{m}$ . The JT thermistor also has excellent electrical insulation and can be safely used in environments where it might come in contact with electrodes.

### Product number explanation



### Applications

Battery packs, battery chargers, IT equipment, mobile devices, LCDs, surface temperature sensors, high sensitivity air temperature sensors

### Specifications

Product number	$R_{25}^1$	$R_{25}$ tolerance	B value <sup>2</sup>	Dissipation factor (mw / °C)	Thermal time constant (s) <sup>3</sup>	Rated power at 25 °C (mW)	Operating temperature range (°C)
103JT	10.0 k $\Omega$	$\pm 1\%$	3435 K $\pm 1\%$	approx. 0.7	approx. 5	3.5	- 50 to 125
104JT	100 k $\Omega$		4390 K $\pm 1\%$				

<sup>1</sup>: Rated zero-power resistance at 25 °C    <sup>2</sup>: B value calculated from rated zero-power resistance at 25 °C and 85 °C

<sup>3</sup>: Time required to reach 63.2% of temperature difference. Measured with sensor suspended in mid-air.

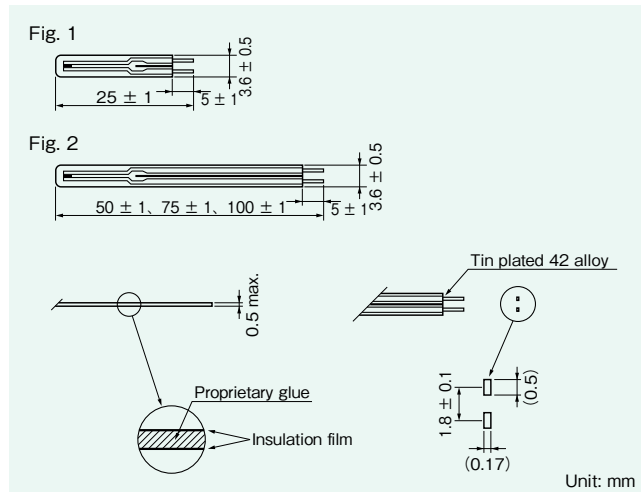
### Reliability data

Item	Test conditions	Criteria
Resistance to soldering heat	5 s at 260 °C	$\Delta R, \Delta B \pm 1\%$
Solderability	2 s at 245 °C Flux material: Rosin 25%, ethyl alcohol 75%	More than 90% soldered
Tensile strength (lead wire)	10 s at 1 N (horizontal pull)	$\Delta R, \Delta B \pm 1\%$ and visual inspection
Termination bending	2.5 N, one time, 90°	
Free fall	Three times natural fall to a maple board from 0.75 m height.	
Voltage proof	100 V AC for one minute	Less than 1 mA
Insulation resistance	100 V DC	Over 100 M $\Omega$
Dry heat	1000 hours at 125 °C	$\Delta R, \Delta B \pm 1\%$
Damp heat (under electrical load)	1000 hours at 40 °C and 90% humidity Electrical load: 1 mA DC	
Temperature cycle (thermal shock)	100 cycles as below: 1. - 25 °C for 30 minutes 2. Room temperature for 3 minutes 3. 125 °C for 30 minutes 4. Room temperature for 3 minutes	

### Caution

- If you plan pressing or pushing the thermistor against an object or inserting it into a tight space please contact SEMITEC sales staff.
- When soldering make sure to avoid contact of the hot part (over 150 °C) and the sensor, because this may melt the sensor film.
- When bending the sensor make sure to not apply force on the sensor head (minimum distance from sensor: 3 mm) when fixing it. Additionally, make sure to bend the lead wire with a minimum distance of 7 mm from the sensor head.

### Dimensions



### Resistance / temperature characteristics

Temperature (°C)	Product number	
	103JT	104JT
- 50	367.7	9584
- 40	204.7	4572
- 30	118.5	2282
- 20	71.02	1191
- 10	43.67	647.2
0	27.70	365.0
10	18.07	212.5
20	12.11	127.7
25	10.00	100.0
30	8.301	78.88
40	5.811	50.03
50	4.147	32.51
60	3.011	21.61
70	2.224	14.66
80	1.668	10.13
85	1.451	8.483
90	1.267	7.135
100	0.9753	5.111
110	0.7597	3.720
120	0.5981	2.746
125	0.5331	2.371
$B_{25/85}$	3435 K	4390 K

Unit: k $\Omega$

