



NTC Thermistor

PRODUCT DATA

■ Temperature Compensation/Sensing TGM Series (Glass Encapsulated Radial Type)

● Features

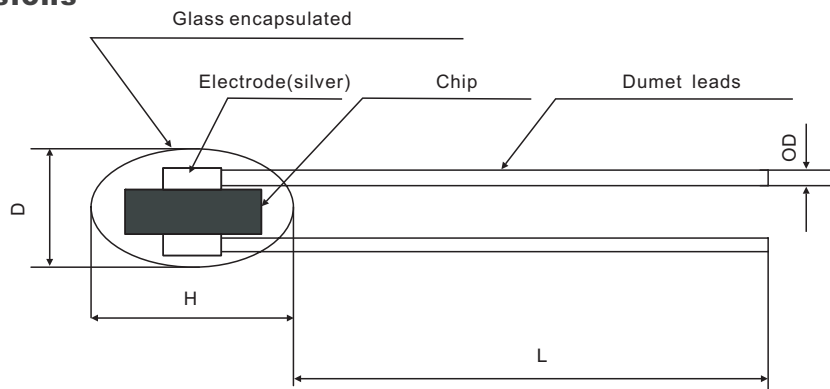
1. Body size ϕ 1.8mm, ϕ 2.5mm
2. Radial lead glass-sealed
3. Long leads for easy sensor placement
4. -40 ~ +250 °C operating temperature range

● Recommended applications

1. Home appliances (air conditioner, refrigerator, electric fan, electric cooker, washing machine, microwave oven, drinking machine, CTV, radio.)
2. Automotive electronics
3. Heaters



● Dimensions



(Unit:mm)

Part no.	Dmax.	OD	Hmax.	Lmin.
TGM1	1.8	0.2 or 0.3	3.5	67±2
TGM2	2.5	0.2 or 0.3	5	67±2

● Characteristics

Part no.	Zero power resistance at 25°C (K Ω)	Tolerance of resistance (±%)	B value (K)	Max. power rating at 25°C (mW)	Tolerance of B value (±%)	Thermal dissipation constant (mW/°C)	Thermal time constant (Sec.)	Operating temperature range (°C)	
TGM1A202□384*	2	1、2、3、5、10	25/85	24	1、2、3	≧0.4	≦3	-40 ~ +250	
TGM1A502□345*	5								3840
TGM1A103□41C*	10								3450
TGM1A203□330*	20								4125
TGM1A303□345*	30								3300
TGM1A503□429*	50								3450
TGM1A104□375*	100								4290
TGM1A204□430*	200								3750
TGM2A102□330*	1			4300		45	≧0.75		≦5
TGM2A502□39G*	5			3300					
TGM2A303□345*	30			3965					
TGM2A204□430*	200			3450					
TGM2A404□405*	400			4300					
TGM2A504□456*	500			4050					
TGM2A105□460*	1000			4560					
TGM2A135□438*	1300			4600					

Note 1: □ = Tolerance of resistance

Note 2: * = Tolerance of B value



● Reliability test

Item	Test Conditions/Methods	Specifications															
Tensile Strength of Terminations	<p>Gradually applying the force specified below to each terminal and keeping the unit fixed for 10 ± 1 sec.</p> <table border="0" style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">Terminal diameter (mm)</td> <td style="text-align: center;">Force (Kg)</td> </tr> <tr> <td style="text-align: center;">$0.3 < d \leq 0.5$</td> <td style="text-align: center;">0.5</td> </tr> </table>	Terminal diameter (mm)	Force (Kg)	$0.3 < d \leq 0.5$	0.5	No visible damage											
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$0.3 < d \leq 0.5$	0.5																
Bending Strength of Terminations	<p>Hanging the force specified below to each terminal and gradually bending each terminal by 90° in one direction, then 90° in the opposite direction, and again back to the origin.</p> <table border="0" style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">Terminal diameter (mm)</td> <td style="text-align: center;">Force (Kg)</td> </tr> <tr> <td style="text-align: center;">$0.3 < d \leq 0.5$</td> <td style="text-align: center;">0.25</td> </tr> </table>	Terminal diameter (mm)	Force (Kg)	$0.3 < d \leq 0.5$	0.25	No visible damage											
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$0.3 < d \leq 0.5$	0.25																
Solderability	$235 \pm 5^\circ\text{C}$, 2 ± 0.5 sec	At least 95% of terminal electrode is covered by new solder															
Resistance to Soldering Heat	$260 \pm 5^\circ\text{C}$, 10 ± 1 sec	No visible damage $\Delta R/R$ $\leq 3\%$															
High Temperature Storage	$250 \pm 5^\circ\text{C} \times 1000$ HRS	No visible damage $\Delta R/R$ $\leq 5\%$															
Damp Heat	$40 \pm 2^\circ\text{C}$, $90 \sim 95\%$ RH, 1000 ± 24 HRS	No visible damage $\Delta R/R$ $\leq 3\%$															
Thermal Shock	<p>The thermal shock conditions shown below shall be repeated 5 cycles</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Step</th> <th>Temperature ($^\circ\text{C}$)</th> <th>Period (minutes)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">-40 ± 5</td> <td style="text-align: center;">30 ± 3</td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">Room temperature</td> <td style="text-align: center;">5 ± 3</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">250 ± 5</td> <td style="text-align: center;">30 ± 3</td> </tr> <tr> <td style="text-align: center;">4</td> <td style="text-align: center;">Room temperature</td> <td style="text-align: center;">5 ± 3</td> </tr> </tbody> </table>	Step	Temperature ($^\circ\text{C}$)	Period (minutes)	1	-40 ± 5	30 ± 3	2	Room temperature	5 ± 3	3	250 ± 5	30 ± 3	4	Room temperature	5 ± 3	No visible damage $\Delta R/R$ $\leq 3\%$
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2	Room temperature	5 ± 3															
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4	Room temperature	5 ± 3															
Life Test	$25 \pm 5^\circ\text{C}$, $P_{\text{max}} \times 1000$ HRS	No visible damage $\Delta R/R$ $\leq 5\%$															