

Temperature Compensation/Sensing KNT5 Series

● Features

1. Body size $\phi 5\text{mm}$
2. Radial lead resin coated
3. $-30 \sim +125^{\circ}\text{C}$ operating temperature range
4. Wide resistance range
5. Cost effective

● Recommended applications

1. Home appliances(air conditioner, refrigerator, electric fan, electric cooker, washing machine, microwave oven, drinking machine, CTV, radio.)
2. Automotive electronic
3. Computer
4. Digital meter

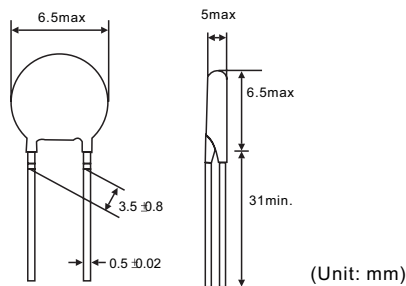


● Approvals



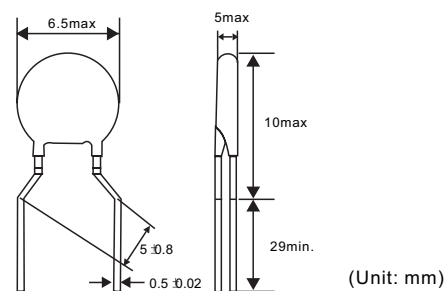
● Dimensions

S type (straight lead)



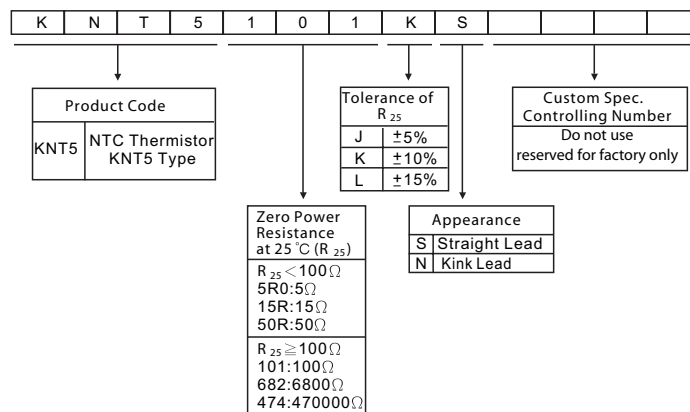
(Unit: mm)

N type(inner kink lead)



(Unit: mm)

● Part number code

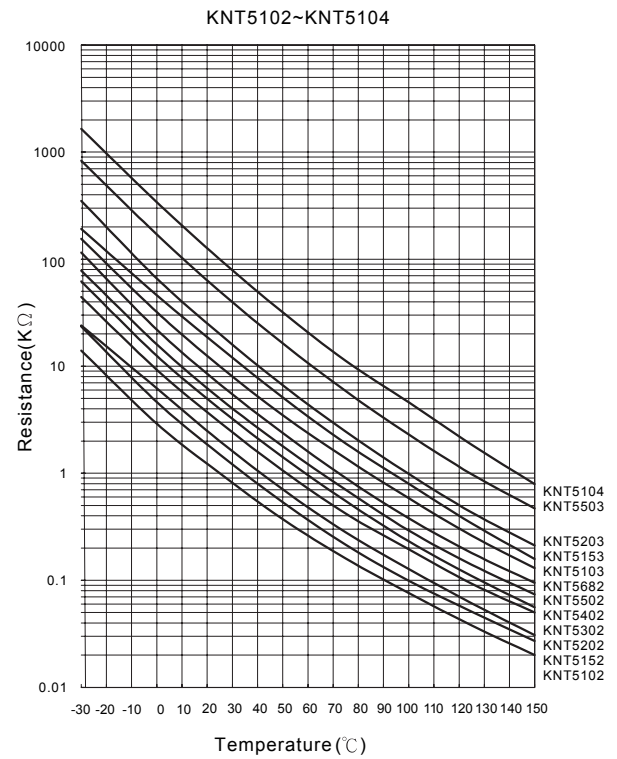
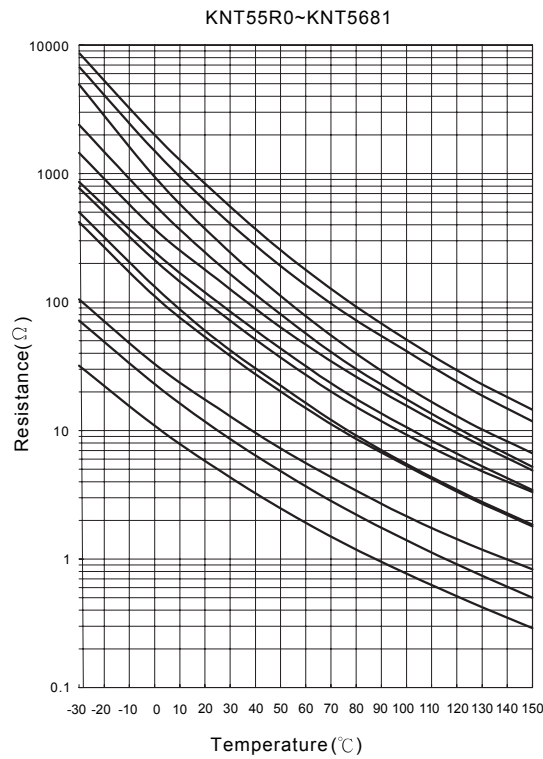


Characteristics

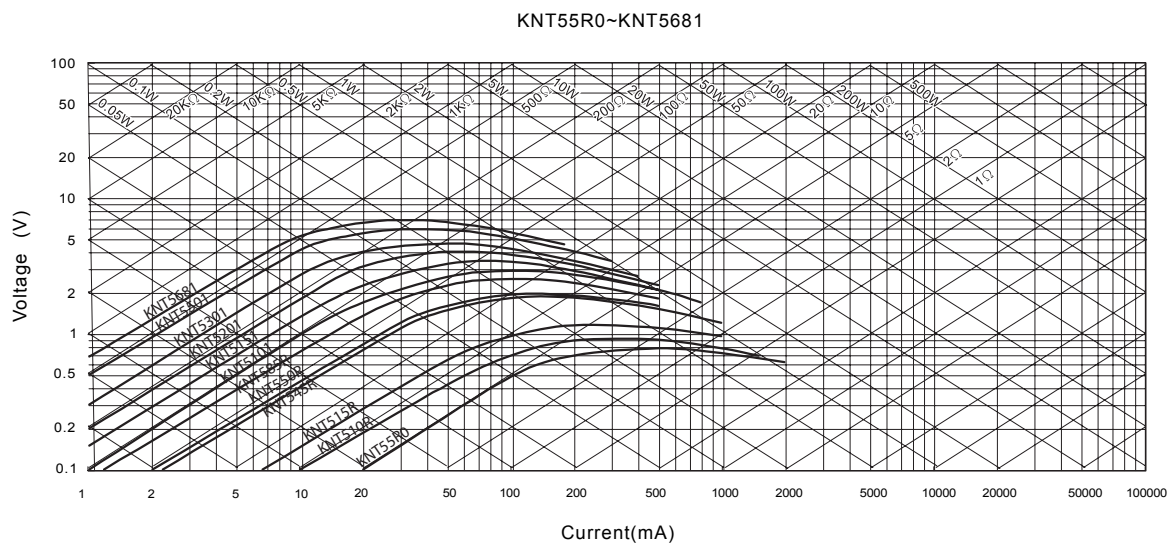
Part no.	Zero power resistance at 25 °C (Ω)	Tolerance of resistance (±%)	B value (K)	Max. power rating at 25 °C (mW)	Thermal dissipation constant (mW/ °C)	Thermal time constant (Sec.)	Operating temperature range (°C)
KNT55R0 □	5	5、10	25/50	900	9	20	-30 ~ +125
KNT510R □	10						
KNT515R □	15						
KNT520R □	20						
KNT525R □	25						
KNT545R □	45						
KNT550R □	50						
KNT560R □	60						
KNT585R □	85						
KNT590R □	90						
KNT5101 □	100						
KNT5121 □	120						
KNT5151 □	150						
KNT5201 □	200						
KNT5221 □	220						
KNT5251 □	250						
KNT5301 □	300						
KNT5471 □	470						
KNT5501 □	500						
KNT5681 □	680						
KNT5701 □	700						
KNT5102 □	1000						
KNT5152 □	1500						
KNT5202 □	2000						
KNT5222 □	2200						
KNT5252 □	2500						
KNT5302 □	3000						
KNT5332 □	3300						
KNT5402 □	4000						
KNT5472 □	4700						
KNT5502 □	5000						
KNT5602 □	6000						
KNT5682 □	6800						
KNT5802 □	8000						
KNT5103 □	10000						
KNT5123 □	12000						
KNT5153 □	15000						
KNT5203 □	20000						
KNT5303 □	30000						
KNT5473 □	47000						
KNT5503 □	50000						
KNT5104 □	100000						
KNT5154 □	150000						
KNT5204 □	200000						
KNT5224 □	220000						
KNT5474 □	470000						

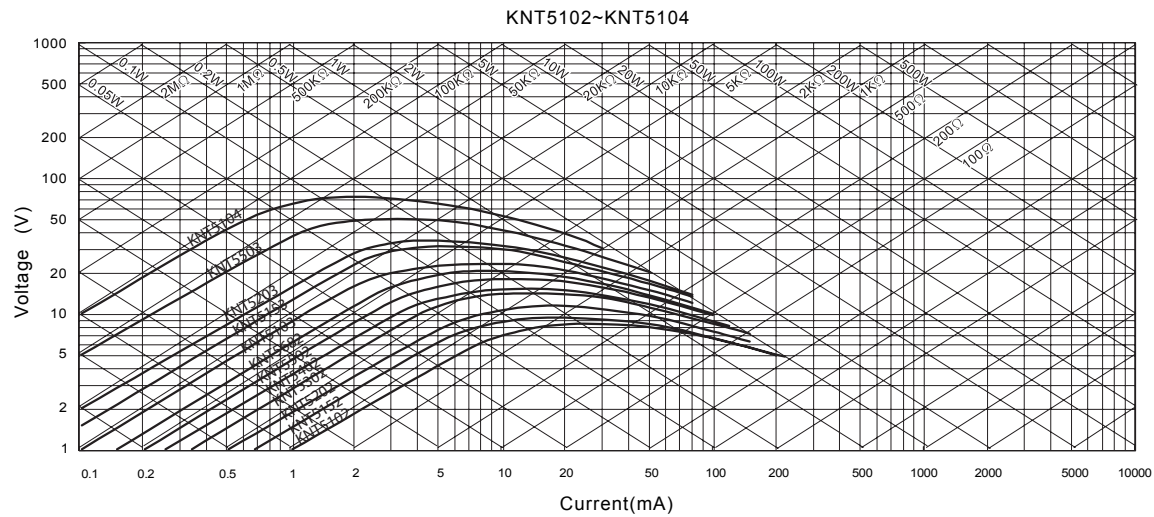
Note: □ = Tolerance of resistance

- R-T characteristic curve (representative)



- V-I characteristic curve (representative)





● Reliability test

Item	Test Conditions/Methods	Specifications															
Tensile Strength of Terminations	Gradually applying the force specified below to each terminal and keeping the unit fixed for 10±1 sec. <table><tr><td>Terminal diameter</td><td>Force</td></tr><tr><td>(mm)</td><td>(Kg)</td></tr><tr><td>0.3<d≤0.5</td><td>0.5</td></tr><tr><td>0.5<d≤0.8</td><td>1.0</td></tr></table>	Terminal diameter	Force	(mm)	(Kg)	0.3<d≤0.5	0.5	0.5<d≤0.8	1.0	No visible damage							
Terminal diameter	Force																
(mm)	(Kg)																
0.3<d≤0.5	0.5																
0.5<d≤0.8	1.0																
Bending Strength of Terminations	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. <table><tr><td>Terminal diameter</td><td>Force</td></tr><tr><td>(mm)</td><td>(Kg)</td></tr><tr><td>0.3<d≤0.5</td><td>0.25</td></tr><tr><td>0.5<d≤0.8</td><td>0.5</td></tr></table>	Terminal diameter	Force	(mm)	(Kg)	0.3<d≤0.5	0.25	0.5<d≤0.8	0.5	No visible damage							
Terminal diameter	Force																
(mm)	(Kg)																
0.3<d≤0.5	0.25																
0.5<d≤0.8	0.5																
Solderability	235 ±5℃ , 2 ±0.5 sec	At least 95% of terminal electrode is covered by new solder															
Resistance to Soldering Heat	260 ±5℃ , 10 ±1 sec	No visible damage ΔR/R ≤ 3 %															
Damp Heat	40 ±2℃ , 9 0 ~ 95 % RH, 1000 ±24 HRS	No visible damage ΔR/R ≤ 3 %															
Thermal Shock	The thermal shock conditions shown below shall be repeated 5 cycles <table><tr><td>Step</td><td>Temperature(℃)</td><td>Period (minutes)</td></tr><tr><td>1</td><td>-30 ±5</td><td>30±3</td></tr><tr><td>2</td><td>Room temperature</td><td>5±3</td></tr><tr><td>3</td><td>125 ±5</td><td>30±3</td></tr><tr><td>4</td><td>Room temperature</td><td>5±3</td></tr></table>	Step	Temperature(℃)	Period (minutes)	1	-30 ±5	30±3	2	Room temperature	5±3	3	125 ±5	30±3	4	Room temperature	5±3	No visible damage ΔR/R ≤ 3%
Step	Temperature(℃)	Period (minutes)															
1	-30 ±5	30±3															
2	Room temperature	5±3															
3	125 ±5	30±3															
4	Room temperature	5±3															
Life Test	25 ±5℃, Pmax X 1000 HRS	No visible damage ΔR/R ≤ 5 %															