

PRODUCT DATA



Temperature Compensation/Sensing TTC05 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

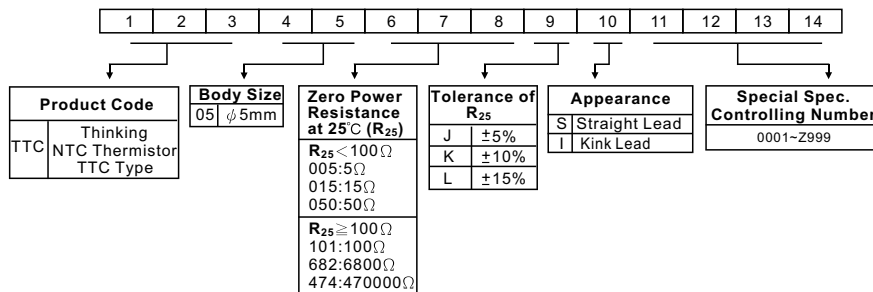


* UL 1434 recognized (File#E138827)



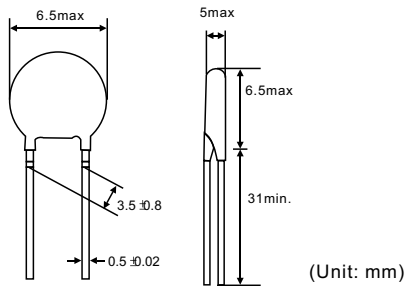
* CSA recognized (File#97495)

Part number code

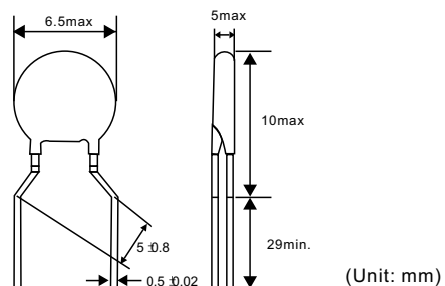


Dimensions

S type (straight lead)



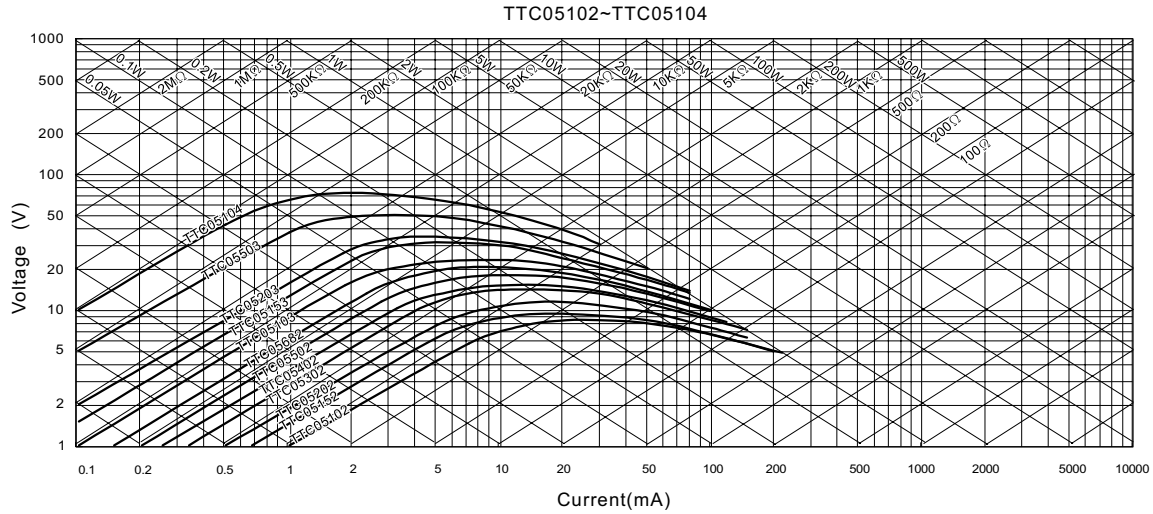
I type (inner kink lead)



■ 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)
TTC05005□	5	5 · 10	25/50	2400	900	9	20	-30 ~ +125
TTC05010□	10			2800				
TTC05015□	15			2800				
TTC05020□	20			2800				
TTC05025□	25			2900				
TTC05045□	45			3100				
TTC05050□	50			3100				
TTC05060□	60			3100				
TTC05085□	85			3200				
TTC05090□	90			3200				
TTC05101□	100			3200				
TTC05121□	120			3300				
TTC05151□	150			3300				
TTC05201□	200			3500				
TTC05221□	220			3500				
TTC05251□	250			3500				
TTC05301□	300			3800				
TTC05471□	470			3500				
TTC05501□	500			3700				
TTC05681□	680			3800				
TTC05701□	700			3800				
TTC05102□	1000			3800				
TTC05152□	1500			3950				
TTC05202□	2000			4000				
TTC05222□	2200			4000				
TTC05252□	2500			4000				
TTC05302□	3000			4000				
TTC05332□	3300			4000				
TTC05402□	4000			4000				
TTC05472□	4700			4050				
TTC05502□	5000			3950				
TTC05602□	6000			4050				
TTC05682□	6800			4050				
TTC05802□	8000			4050				
TTC05103□	10000			4050				
TTC05123□	12000			4050				
TTC05153□	15000			4150				
TTC05203□	20000			4250				
TTC05303□	30000			4250				
TTC05473□	47000			4300				
TTC05503□	50000			4300				
TTC05104□	100000			4400				
TTC05154□	150000			4500				
TTC05204□	200000			4600				
TTC05224□	220000			4600				
TTC05474□	470000			4750				

Note: □ = Tolerance of resistance



● 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 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> <tr> <td style="text-align: center;">$0.5 < d \leq 0.8$</td> <td style="text-align: center;">1.0</td> </tr> </table>	Terminal diameter (mm)	Force (Kg)	$0.3 < d \leq 0.5$	0.5	$0.5 < d \leq 0.8$	1.0	No visible damage									
Terminal diameter (mm)	Force (Kg)																
$0.3 < d \leq 0.5$	0.5																
$0.5 < d \leq 0.8$	1.0																
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 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> <tr> <td style="text-align: center;">$0.5 < d \leq 0.8$</td> <td style="text-align: center;">0.5</td> </tr> </table>	Terminal diameter (mm)	Force (Kg)	$0.3 < d \leq 0.5$	0.25	$0.5 < d \leq 0.8$	0.5	No visible damage									
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$0.5 < d \leq 0.8$	0.5																
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\%$															
Damp Heat	$40 \pm 2^\circ\text{C}$, 90 ~ 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;">-30 ± 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;">125 ± 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	-30 ± 5	30 ± 3	2	Room temperature	5 ± 3	3	125 ± 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															
3	125 ± 5	30 ± 3															
4	Room temperature	5 ± 3															
Life Test	$25 \pm 5^\circ\text{C}$, P_{max} X 1000 HRS	No visible damage $ \Delta R/R \leq 5\%$															