



NTC Thermistor

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



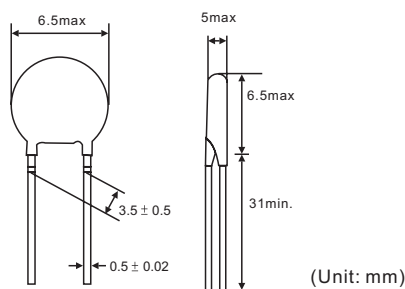
* UL 1434 Recognized (File#E138827)



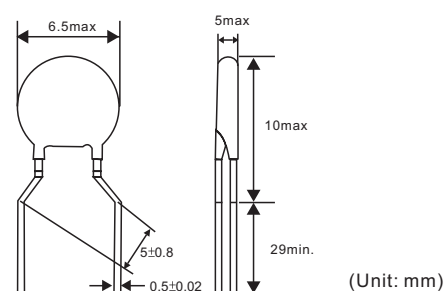
* CSA Recognized (File#97495)

● 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	Standard	Test conditions / Methods	Specifications															
Tensile Strength of Terminals	IEC68-2-21	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 Terminals	IEC68-2-21	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>0.50</td></tr></table>	Terminal diameter	Force	(mm)	(kg)	0.3<d ≤ 0.5	0.25	0.5<d ≤ 0.8	0.50	No visible damage							
Terminal diameter	Force																	
(mm)	(kg)																	
0.3<d ≤ 0.5	0.25																	
0.5<d ≤ 0.8	0.50																	
Solderability	IEC68-2-20	235 ± 5℃ , 2 ± 0.5 sec	At least 95% of terminal electrode is covered by new solder															
Resistance to Soldering Heat	IEC68-2-20	260 ± 5℃ , 10 ±1 sec	No visible damage ΔR/R ≤ 3 %															
High Temperature Storage	IEC68-2-2 UL1434	Tmax ± 5℃ X 1000 HRS	No visible damage ΔR/R ≤ 5%															
Damp Heat	IEC68-2-3 UL1434	40 ± 2℃ , 9 0 ~ 95 % RH , 1000 ±24 HRS	No visible damage ΔR/R ≤ 3 %															
Thermal Shock	IEC68-2-14 UL1434	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	CNS5550	25 ± 5℃, Pmax. X1000 HRS	No visible damage ΔR/R ≤ 5 %															
Insulation test	MIL-STD-202F-Method 302	1000 V _{DC} 1 min	No visible damage ≥500 MΩ															