



# NTC Thermistor

## PRODUCT DATA

### ■ Temperature Compensation/Sensing TTC03 Series

- **Features**

1. Body size  $\phi 3\text{mm}$
2. Radial lead resin coated
3.  $-40 \sim +125^{\circ}\text{C}$  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

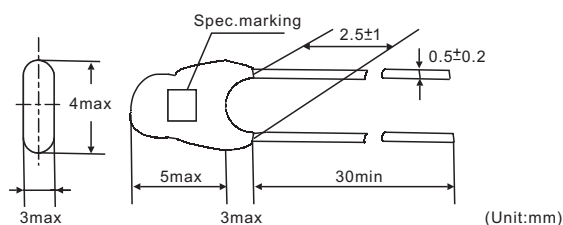
- **Approvals**



\* UL 1434 Recognized (File#E138827)



- **Dimensions**





● Characteristics

Part no.	Zero power resistance at 25°C (KΩ)	Tolerance of resistance (±%)	B value (K)		Tolerance of B value (±%)	Max. power rating at 25°C (mW)	Thermal dissipation constant (mW/°C)	Thermal time constant (Sec.)	Operating temperature range (°C)
TTC3A901□39D*	0.9	1 · 2 · 3 · 5 · 10	25/85	3935	1 · 2 · 3	300	≥ 5	≤ 11	-40 ~ +125
TTC3A102□39D*	1			3935					
TTC3A202□39H*	2			3975					
TTC3A222□39H*	2.2			3975					

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TTC3A272□39H*	2.7	1 · 2 · 3 · 5 · 10	25/85	3975	1 · 2 · 3	300	≥ 5	≤ 11	-40 ~ +125
TTC3A302□39H*	3			3975					
TTC3A332□39H*	3.3			3975					
TTC3A472□39H*	4.7			3975					
TTC3A502□39H*	5			3975					
TTC3A682□39H*	6.8			3975					
TTC3A103□34D*	10			3435					
TTC3A103□374*	10			3740					
TTC3A103□39H*	10			3975					
TTC3A123□374*	12			3740					
TTC3A153□374*	15			3740					
TTC3A203□374*	20			3740					
TTC3A223□374*	22			3740					
TTC3A333□409*	33			4090					
TTC3A473□409*	47			4090					
TTC3A683□419*	68			4190					
TTC3A104□419*	100			4190					
TTC3A154□437*	150			4370					
TTC3A224□437*	220			4370					
TTC3A334□457*	330			4570					
TTC3A474□457*	470	4570							

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="1"> <thead> <tr> <th>Terminal diameter (mm)</th> <th>Force (Kg)</th> </tr> </thead> <tbody> <tr> <td>0.3&lt;d≤0.5</td> <td>0.5</td> </tr> <tr> <td>0.5&lt;d≤0.8</td> <td>1.0</td> </tr> </tbody> </table>	Terminal diameter (mm)	Force (Kg)	0.3<d≤0.5	0.5	0.5<d≤0.8	1.0	No visible damage									
Terminal diameter (mm)	Force (Kg)																
0.3<d≤0.5	0.5																
0.5<d≤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 border="1"> <thead> <tr> <th>Terminal diameter (mm)</th> <th>Force (Kg)</th> </tr> </thead> <tbody> <tr> <td>0.3&lt;d≤0.5</td> <td>0.25</td> </tr> <tr> <td>0.5&lt;d≤0.8</td> <td>0.5</td> </tr> </tbody> </table>	Terminal diameter (mm)	Force (Kg)	0.3<d≤0.5	0.25	0.5<d≤0.8	0.5	No visible damage									
Terminal diameter (mm)	Force (Kg)																
0.3<d≤0.5	0.25																
0.5<d≤0.8	0.5																
Solderability	235±5°C , 2±0.5 sec	At least 95% of terminal electrode is covered by new solder															
Resistance to Soldering Heat	260±5°C , 5±1sec	No visible damage   ΔR/R   ≤ 3 %															
High Temperature Storage	125±5°C X1000HRS	No visible damage   ΔR/R   ≤ 5 %															
Damp Heat	40±2°C, 90~95%RH, 1000±24HRS	No visible damage   ΔR/R   ≤ 3 %															
Thermal Shock	<p>The thermal shock conditions shown below shall be repeated 5 cycles</p> <table border="1"> <thead> <tr> <th>Step</th> <th>Temperature (°C)</th> <th>Period (minutes)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-40±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> </tbody> </table>	Step	Temperature (°C)	Period (minutes)	1	-40±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 (°C)	Period (minutes)															
1	-40±5	30±3															
2	Room temperature	5±3															
3	125±5	30±3															
4	Room temperature	5±3															
Life Test	25±5°C, Pmax X1000 HRS	No visible damage   ΔR/R   ≤ 5 %															