



NTC Thermistor

PRODUCT DATA

■ Temperature Compensation/Sensing TTF Series (Insulation Film Type)

● Features

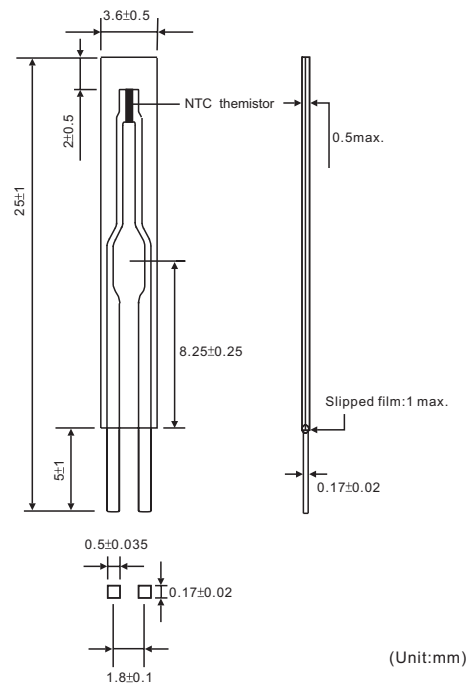
1. Radial leaded insulation film coated
2. -40 ~ +100°C operating temperature range

● Recommended applications

1. Home appliances (air conditioner, refrigerator, electric fan, electric cooker, washing machine, microwave oven, drinking machine, CTV, radio.)
2. Computers
3. Battery pack



● 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)
TTF3A502□34D*	5	1、2、3、5、10	25/85	3435	1、2、3	31.5	0.7	5	-40 ~ +100
TTF3A103□34D*	10								
TTF3A503□34D*	50								
TTF3A104□34D*	100								

Note 1: □ = Tolerance of resistance

Note 2: * = Tolerance of B value



● **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 style="width: 100%; border: none;"> <tr> <td style="text-align: center; border-bottom: 1px solid black;">Terminal cross-sectional area (mm²)</td> <td style="text-align: center; border-bottom: 1px solid black;">Force (kg)</td> </tr> <tr> <td style="text-align: center;">$S \leq 0.05$</td> <td style="text-align: center;">0.1</td> </tr> </table>	Terminal cross-sectional area (mm ²)	Force (kg)	$S \leq 0.05$	0.1	No visible damage											
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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 style="width: 100%; border: none;"> <tr> <td style="text-align: center; border-bottom: 1px solid black;">Terminal cross-sectional area (mm²)</td> <td style="text-align: center; border-bottom: 1px solid black;">Force (kg)</td> </tr> <tr> <td style="text-align: center;">$S \leq 0.05$</td> <td style="text-align: center;">0.05</td> </tr> </table>	Terminal cross-sectional area (mm ²)	Force (kg)	$S \leq 0.05$	0.05	No visible damage											
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Solderability	IEC68-2-20	$235 \pm 5^\circ\text{C}$, 2 ± 0.5 sec	At least 95% of terminal electrode is covered by new solder															
Resistance to Soldering Heat	IEC68-2-20	$260 \pm 5^\circ\text{C}$, 10 ± 1 sec	No visible damage $\Delta R/R$ $\leq 3\%$															
High Temperature Storage	IEC68-2-2 UL1434	$100 \pm 5^\circ\text{C}$, 1000 ± 24 HRS	No visible damage $\Delta R/R$ $\leq 5\%$															
Damp Heat	IEC68-2-3 UL1434	$40 \pm 2^\circ\text{C}$, 90 ~ 95 % RH , 1000 ± 24 HRS	No visible damage $\Delta R/R$ $\leq 3\%$															
Thermal Shock	IEC68-2-14 UL1434	The thermal shock conditions shown below shall be repeated 5 cycles <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;">100 ± 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	100 ± 5	30 ± 3	4	Room temperature	5 ± 3	No visible damage $\Delta R/R$ $\leq 3\%$
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1	-40 ± 5	30 ± 3																
2	Room temperature	5 ± 3																
3	100 ± 5	30 ± 3																
4	Room temperature	5 ± 3																
Life Test	CNS5550	$25 \pm 5^\circ\text{C}$, Pmax. , 1000 ± 24 HRS	No visible damage $\Delta R/R$ $\leq 5\%$															

Products have been tested at Thinking Electronic Industrial Co., Ltd. Laboratory recognized by UL (Underwriters Laboratories Inc.) under CTDTP (Client Test Data Program).