

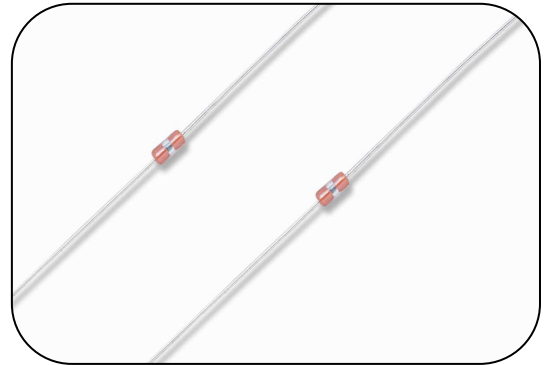
# NTC Thermistor: DHT Type



## Glass Axial Type for Temperature Sensing/Compensation

### ■ Features

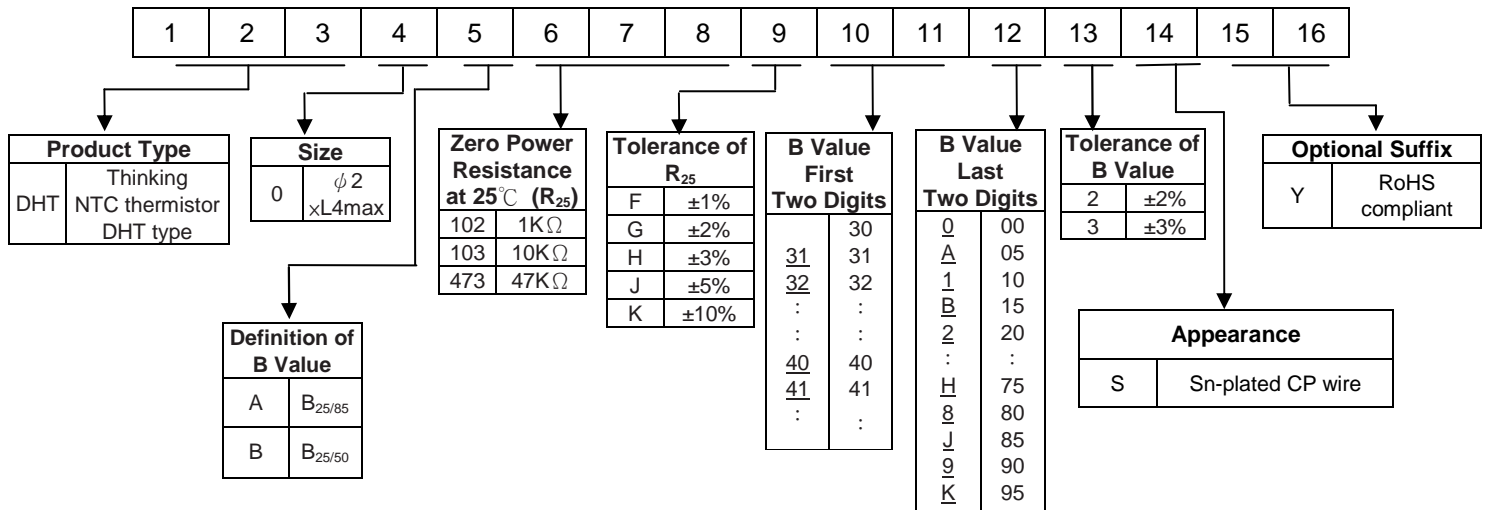
1. RoHS compliant
2. Body size  $\phi 2\text{mm} \times 4\text{mm}$
3. Axial lead glass-sealed
4.  $-40 \sim +200^\circ\text{C}$  operating temperature range
5. Agency recognition: UL /cUL



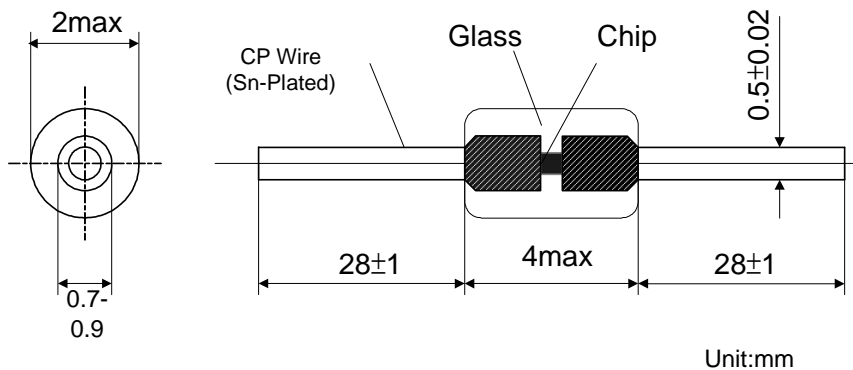
### ■ Recommended Applications

1. Home appliances (air conditioner, refrigerator, electric fan, electric cooker, washing machine, microwave oven, drinking machine, CTV, radio.)
2. Automotive electronics
3. Heaters

### ■ Part Number Code



### ■ Structure and Dimensions



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### Electrical Characteristics

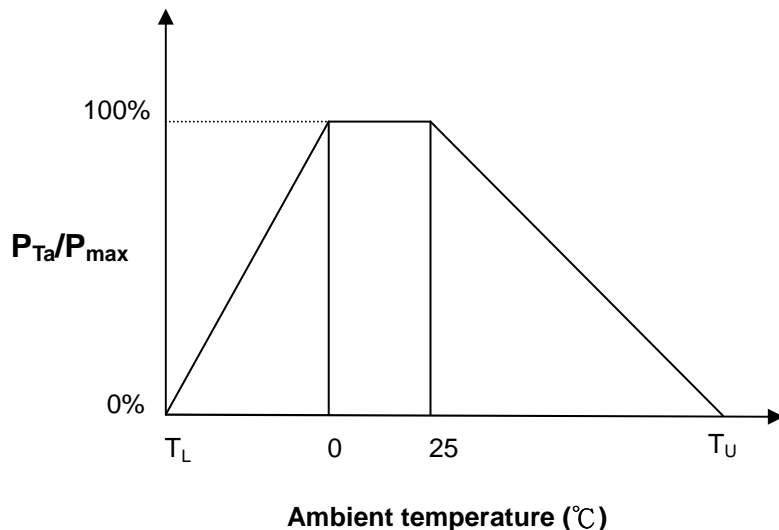
Part No.	Zero Power Resistance at 25°C	Tolerance of R <sub>25</sub>	B <sub>25/85</sub> Value		Tolerance of B Value	Max. Power Dissipation at 25°C	Dissipation Factor	Thermal Time Constant	Operating Temperature Range	Safety Approvals	
	R <sub>25</sub> (KΩ)	( ±%)	(K)		( ±%)	P <sub>max</sub> (mW)	δ(mW/°C)	τ(Sec.)	T <sub>L</sub> ~T <sub>U</sub> (°C)	UL	cUL
DHT0A502□355*	5	1、2、3、 5、10	25/85	3550	2、3	120	≥2	≤10	-40~+200	√	√
DHT0B103□355*	10		25/50	3550						√	√
DHT0A103□34D*	10		25/85	3435						√	√
DHT0A103□347*	10		25/85	3470						√	√
DHT0A103□39H*	10		25/85	3975						√	√
DHT0B203□395*	20		25/50	3950						√	√
DHT0B303□395*	30		25/50	3950						√	√
DHT0B473□395*	47		25/50	3950						√	√
DHT0B503□395*	50		25/50	3950						√	√
DHT0B104□400*	100		25/50	4000						√	√
DHT0A104□39H*	100		25/85	3975						√	√
DHT0A104□430*	100		25/85	4300						√	√
DHT0B204□395*	200		25/50	3950						√	√
DHT0A204□400*	200		25/85	4000						√	√
DHT0B204□435*	200		25/50	4350						√	√

Note 1: □ = Tolerance of R<sub>25</sub>

Note 2: \* = Tolerance of B value

Note3: UL/cUL File No E138827

### Max. Power Dissipation Derating Curve



T<sub>U</sub> : Maximum operating temperature (°C)

T<sub>L</sub> : Minimum operating temperature (°C)

For example : Ambient temperature(T<sub>a</sub>)=55°C

Maximum operating temperature(T<sub>U</sub>) = 200°C

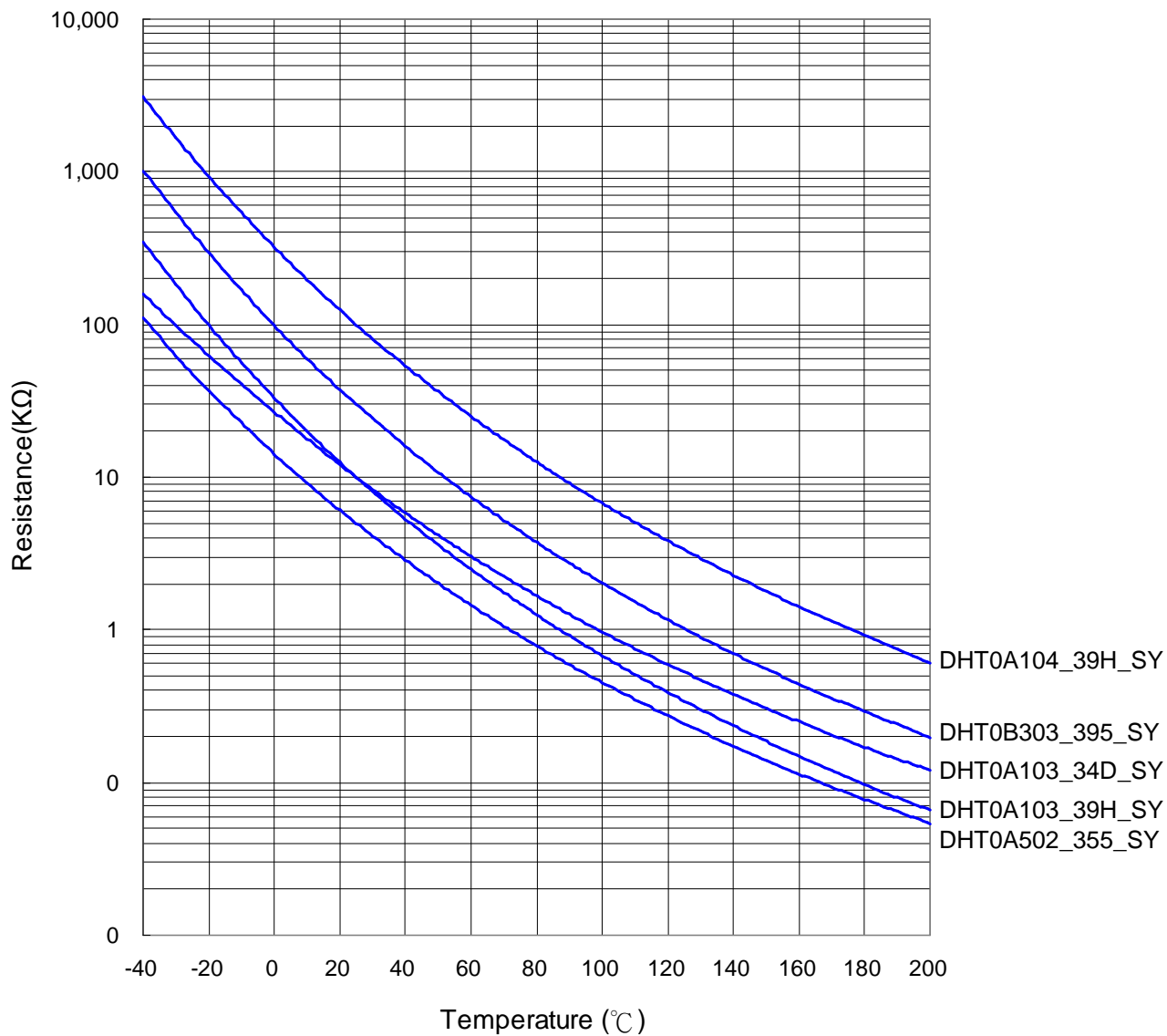
$P_{Ta} = (T_U - T_a) / (T_U - 25) \times P_{max} \approx 83\% P_{max}$

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## ■ R-T Characteristic Curves



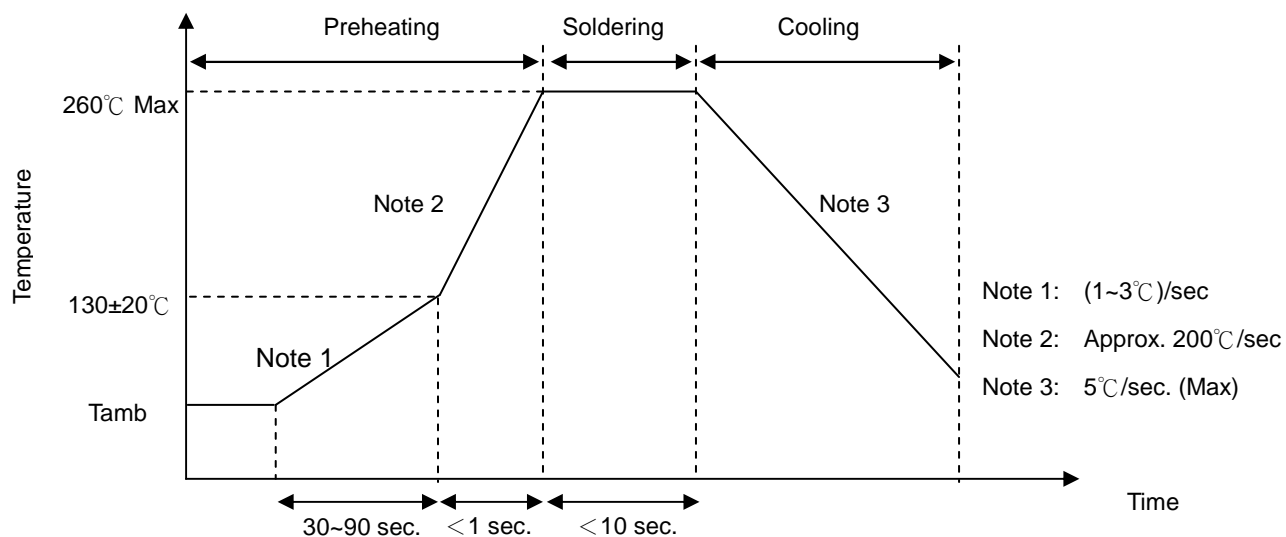
# NTC Thermistor: DHT Type

## Glass Axial Type for Temperature Sensing/Compensation



### ■ Soldering Recommendation

#### ● Wave Soldering Profile



#### ● Recommended Reworking Conditions With Soldering Iron

Item	Conditions
Temperature of Soldering Iron-tip	$360^\circ\text{C}$ (max.)
Soldering Time	3 sec (max.)
Distance from Thermistor	2 mm (min.)

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### ■ Reliability

Item	Standard	Test conditions / Methods	Specifications															
Tensile Strength of Terminations	IEC60068-2-21	<p>Gradually applying the force specified and keeping the unit fixed for 10±1 sec.</p> <table border="0"> <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;"><u>0.3&lt;d≤0.5</u></td> <td style="text-align: center;"><u>0.5</u></td> </tr> </table>	Terminal diameter (mm)	Force (Kg)	<u>0.3&lt;d≤0.5</u>	<u>0.5</u>	No visible damage											
Terminal diameter (mm)	Force (Kg)																	
<u>0.3&lt;d≤0.5</u>	<u>0.5</u>																	
Bending Strength of Terminations	IEC60068-2-21	<p>Hold specimen and apply the force specified below to each lead. Bend the specimen to 90°, then return to the original position. Repeat the procedure in the opposite direction.</p> <table border="0"> <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;"><u>0.3&lt;d≤0.5</u></td> <td style="text-align: center;"><u>0.25</u></td> </tr> </table>	Terminal diameter (mm)	Force (Kg)	<u>0.3&lt;d≤0.5</u>	<u>0.25</u>	No visible damage											
Terminal diameter (mm)	Force (Kg)																	
<u>0.3&lt;d≤0.5</u>	<u>0.25</u>																	
Solderability	IEC60068-2-20	245 ± 3 °C , 3 ± 0.3 sec	At least 95% of terminal electrode is covered by new solder															
Resistance to Soldering Heat	IEC60068-2-20	260 ± 3 °C , 10 ± 1 sec	No visible damage   ΔR <sub>25</sub> /R <sub>25</sub>   ≤ 3 %															
High Temperature Storage	IEC60068-2-2	200 ± 5 °C , 1000 ± 24 hrs	No visible damage   ΔR <sub>25</sub> /R <sub>25</sub>   ≤ 5 %															
Damp Heat, Steady State	IEC60068-2-3	40 ± 2 °C , 90~95% RH , 1000 ± 24 hrs	No visible damage   ΔR <sub>25</sub> /R <sub>25</sub>   ≤ 3 %															
Rapid Change of Temperature	IEC60068-2-14	<p>The 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>200±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	200±5	30±3	4	Room temperature	5±3	No visible damage   ΔR <sub>25</sub> /R <sub>25</sub>   ≤ 3 %
Step	Temperature (°C)	Period (minutes)																
1	-40±5	30±3																
2	Room temperature	5±3																
3	200±5	30±3																
4	Room temperature	5±3																
Max. Power Dissipation	IEC 60539-1	25 ± 5 °C , Pmax., 1000 ± 24 hrs	No visible damage   ΔR <sub>25</sub> /R <sub>25</sub>   ≤ 5 %															

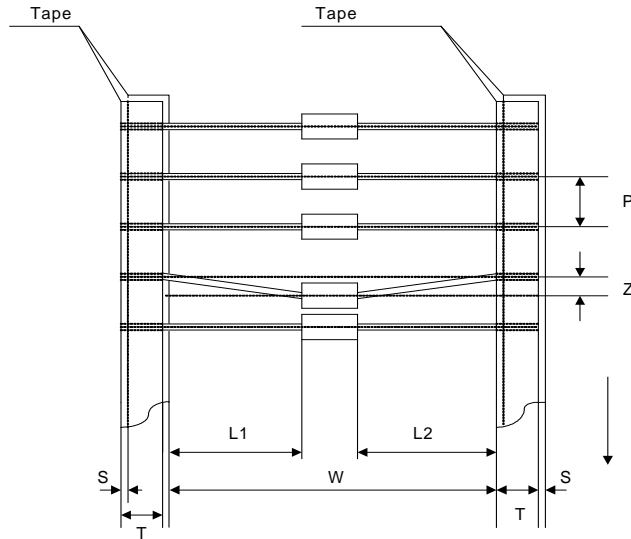
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### ■ Packaging

#### ● Taping Specification

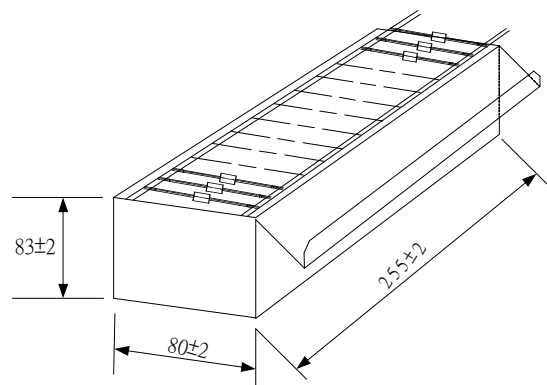
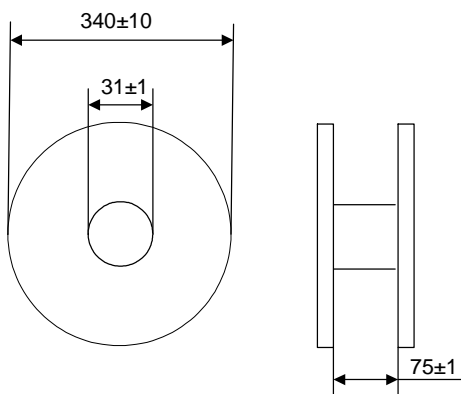


Type		W	P	L1-L2	T	Z	S
W= 52mm	MAX	53	5.5	1	7	1.2	0.8
	MIN	51	4.5	0	5	0	0

### ■ Quantity

- Bulk Packing: 500 pcs/bag
- Reel Packing: 5000 pcs/reel

- Ammo Packing: 5000 pcs/box



### ■ Storage Conditions of Products

- Storage Conditions :
  - 1.Storage Temperature : -10°C~+40°C
  - 2.Relative Humidity : ≤75%RH
  3. Keep away from corrosive atmosphere and sunlight.
- Period of Storage : 1 year