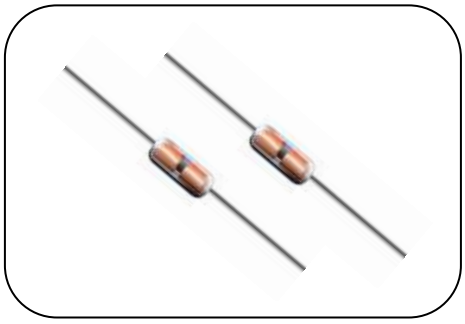
NTC Thermistor：DHT Type

Glass Axial Type for Temperature Sensing/Compensation

■ Features



1. RoHS compliant
2. Body size Φ2mm X 4mm
3. Axial lead glass-sealed
4. Operating temperature range: -40℃~+200℃
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

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Product Type

DHT	THINKING NTC Thermistor DHT Series

Size

0	Φ2 xL4max

Definition of B Value

A	$B_{25/85}$
B	$B_{25/50}$

Zero Power Resistance at 25℃ (R_{25})

102	1KΩ
103	10KΩ
473	47KΩ

Tolerance of R_{25}

F	±1%
G	±2%
H	±3%
J	±5%
K	±10%

B Value

34D	3435
355	3550
39H	3975
435	4350

Tolerance of B Value

2	±2%
3	±3%

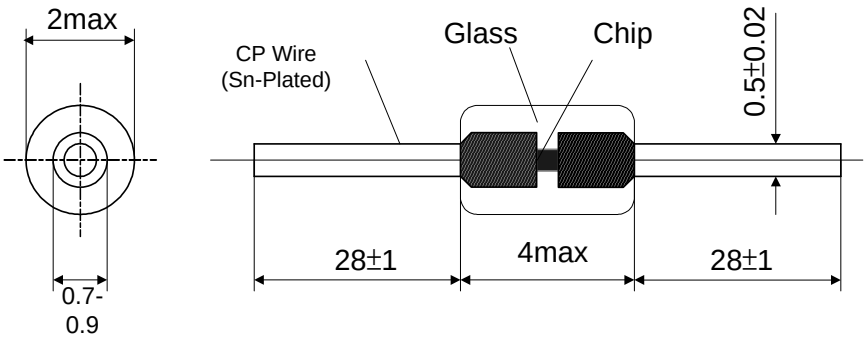
Optional Suffix

Y	RoHS Compliant

Appearance

S	Sn-plated CP wire

■ Structure and Dimensions



Unit:mm

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■ Electrical Characteristics

Part No.	Zero Power Resistance at 25°C	Tolerance of R_{25}	B Value		Tolerance of B Value	Max. Power Dissipation at 25℃	Dissipation Factor	Thermal Time Constant	Operating Temperature Range	Safety Approvals	
	R_{25} (KΩ)	(±%)	(K)		(±%)	P_{max}(mW)	δ(mW/°C)	τ (Sec.)	T_L~T_U(°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						√	√

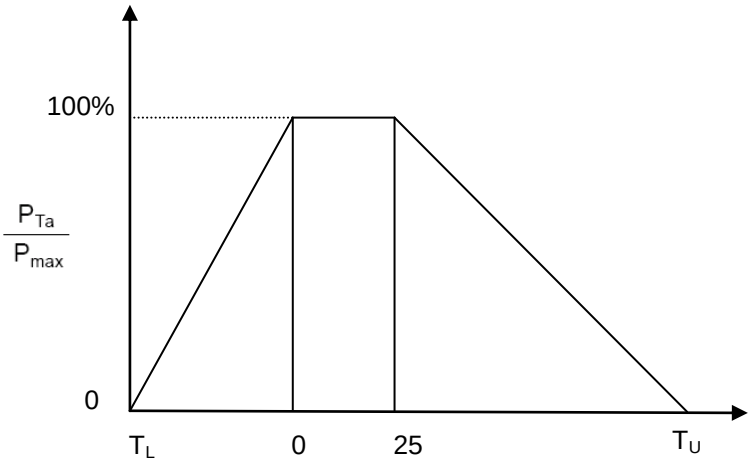
Note 1: □ = Tolerance of R_{25}

* = Tolerance of B value

Note 2: UL/cUL File No: E138827

Note 3: Special specifications are available upon request.

■ Max. Power Dissipation Derating Curve



T_U : Maximum operating temperature (℃)

T_L : Minimum operating temperature (℃)

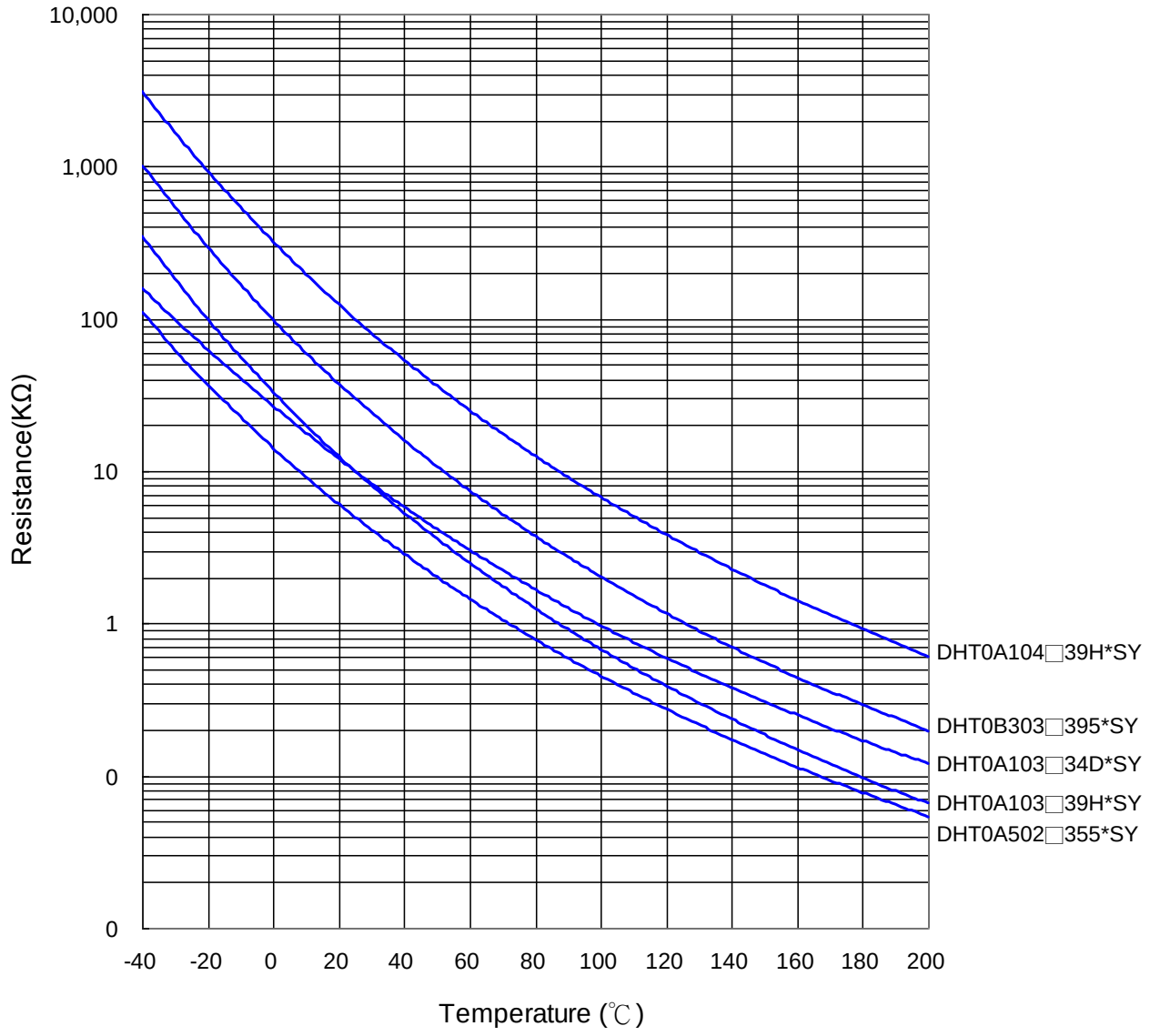
For example:

Ambient temperature (Ta) = 55℃

Maximum operating temperature (T_U) = 200℃

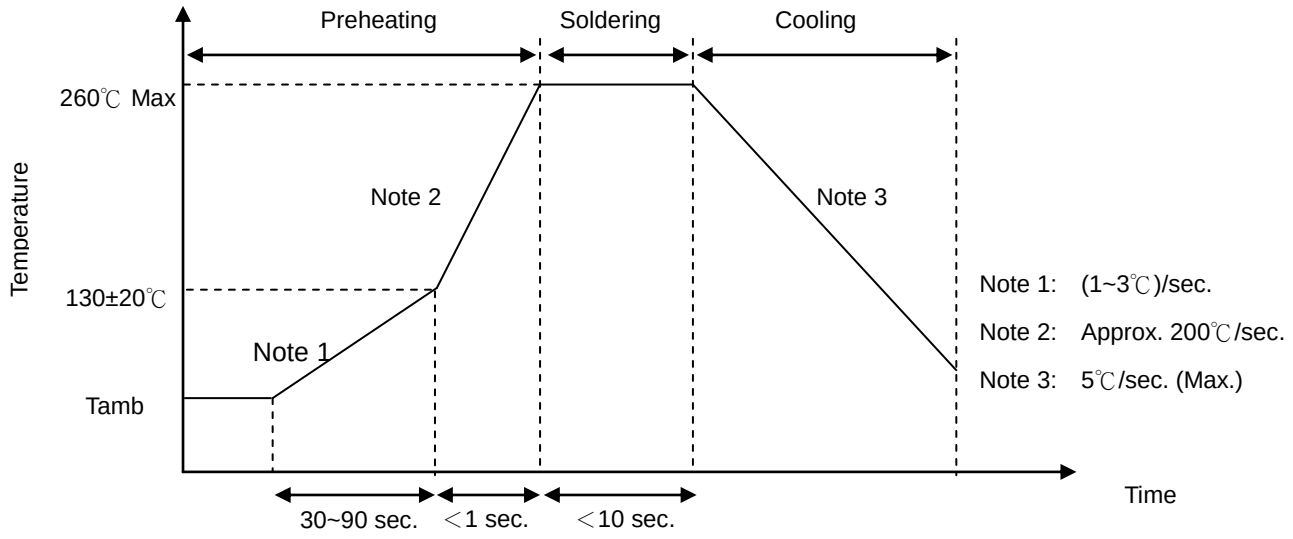
$P_{Ta} = (T_U\text{-}Ta)/(T_U\text{-}25)\times Pmax \cong 83\%\ Pmax$

■ R-T Characteristic Curves



■ Soldering Recommendation

● Wave Soldering Profile



● Recommended Reworking Conditions With Soldering Iron

Item	Conditions
Temperature of Soldering Iron-tip	360℃ (max.)
Soldering Time	3 sec. (max.)
Distance from Thermistor	2 mm (min.)

■ Reliability

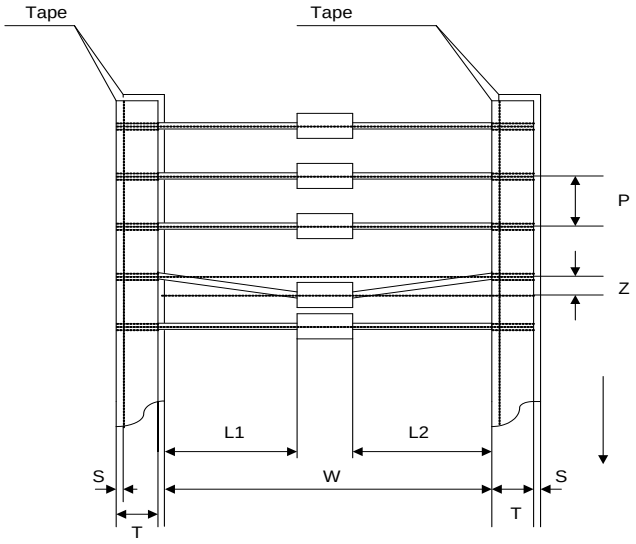
<table>
<tr><th>Item</th><th>Standard</th><th>Test conditions / Methods</th><th>Specifications</th></tr>
<tr><td>Tensile Strength of Terminations</td><td>IEC 60068-2-21</td><td>Gradually apply the force specified and keep the unit fixed for 10±1 sec.

Terminal diameter (mm): 0.3<d≦0.5
Force (Kg): 0.5</td><td>No visible damage</td></tr>
<tr><td>Bending Strength of Terminations</td><td>IEC 60068-2-21</td><td>Hold specimen and apply the force specified below to each lead. Bend the specimen to 90°, and then return to the original position. Repeat the procedure in the opposite direction.

Terminal diameter (mm): 0.3<d≦0.5
Force (Kg): 0.25</td><td>No visible damage</td></tr>
<tr><td>Solderability</td><td>IEC 60068-2-20</td><td>245 ± 3 ℃, 3± 0.3 sec</td><td>At least 95% of terminal electrode is covered by new solder</td></tr>
<tr><td>Resistance to Soldering Heat</td><td>IEC 60068-2-20</td><td>260 ± 3 ℃, 10 ± 1 sec</td><td>No visible damage
$|\triangle R_{25}/R_{25}| \leqq 3\ \%$</td></tr>
<tr><td>High Temperature Storage</td><td>IEC 60068-2-2</td><td>200 ± 5 ℃ , 1000 ± 24 hrs</td><td>No visible damage
$|\triangle R_{25}/R_{25}| \leqq 5\ \%$</td></tr>
<tr><td>Damp Heat, Steady State</td><td>IEC 60068-2-78</td><td>40 ± 2℃ , 90~95% RH , 1000 ± 24 hrs</td><td>No visible damage
$|\triangle R_{25}/R_{25}| \leqq 3\ \%$</td></tr>
<tr><td>Rapid Change of Temperature</td><td>IEC 60068-2-14</td><td>The conditions shown below shall be repeated 5 cycles.
<table><tr><th>Step</th><th>Temperature (℃)</th><th>Period (minutes)</th></tr><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></table></td><td>No visible damage
$|\Delta R_{25}/R_{25}| \leqq 3\ \%$</td></tr>
<tr><td>Max. Power Dissipation</td><td>IEC 60539-1 4.26.3</td><td>25 ± 5℃, Pmax., 1000 ± 24 hrs</td><td>No visible damage
$|\Delta R_{25}/R_{25}| \leqq 5\ \%$</td></tr>
</table>

■ Packaging

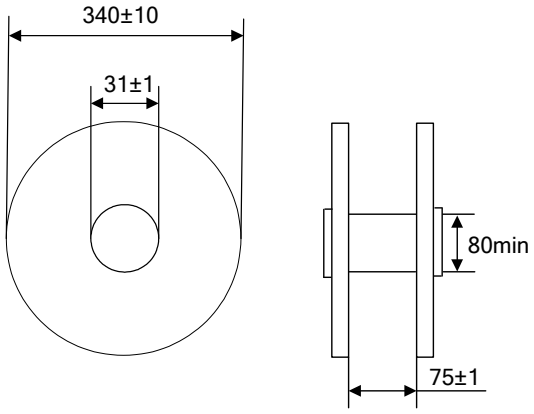
● Taping Specification

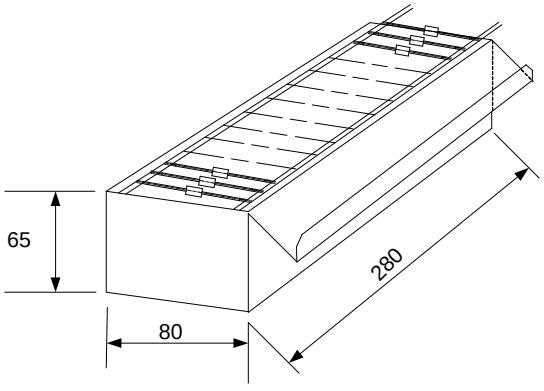


Item	W	P	|L1-L2|	T	Z	S
Max.	27	5.5	1	7	1.2	0.8
Min.	25	4.5	0	5	0	0
Max.	53	5.5	1	7	1.2	0.8
Min.	51	4.5	0	5	0	0

■ Quantity

- **Bulk Packing: 500 pcs/bag**
- **Reel Packing: 5,000 pcs/reel**
- **Ammo Packing: 5,000 pcs/box**





■ Warehouse Storage Conditions of Products

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