

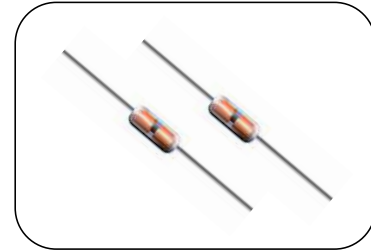
Data Sheet

NTC Thermistor : DHT Series

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. Operating temperature range: $-40^{\circ}\text{C} \sim +200^{\circ}\text{C}$
5. Agency recognition: UL / cUL



■ Recommended Applications

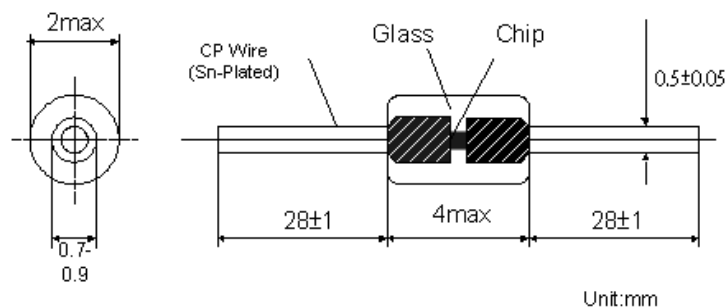
1. Home appliances (air conditioner, refrigerator, electric fan, electric cooker, washing machine, microwave oven, drinking machine, CTV, radio.)
2. Automotive electronics
3. Heaters

■ 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× L4max				Definition of B Value A B _{25/85} B B _{25/50}				Zero Power Resistance at 25°C (R ₂₅) 502 5KΩ 103 10KΩ 204 200KΩ				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																	

BN1564573 – part no. DHT0B103F3553SY

■ Structure and Dimensions



Data Sheet

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°C	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						✓	✓

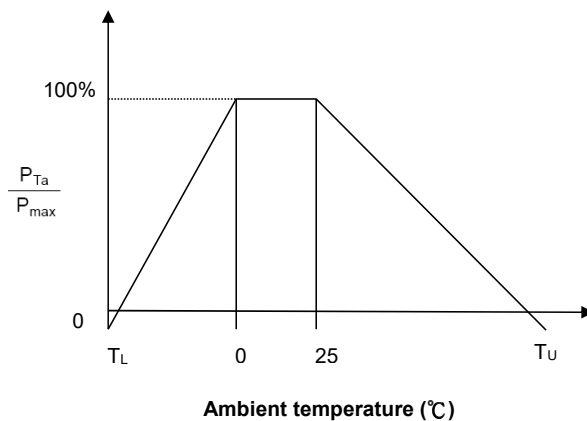
Note 1: □ = Tolerance of R₂₅

* = 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 (°C)

T_L: Minimum operating temperature (°C)

For example:

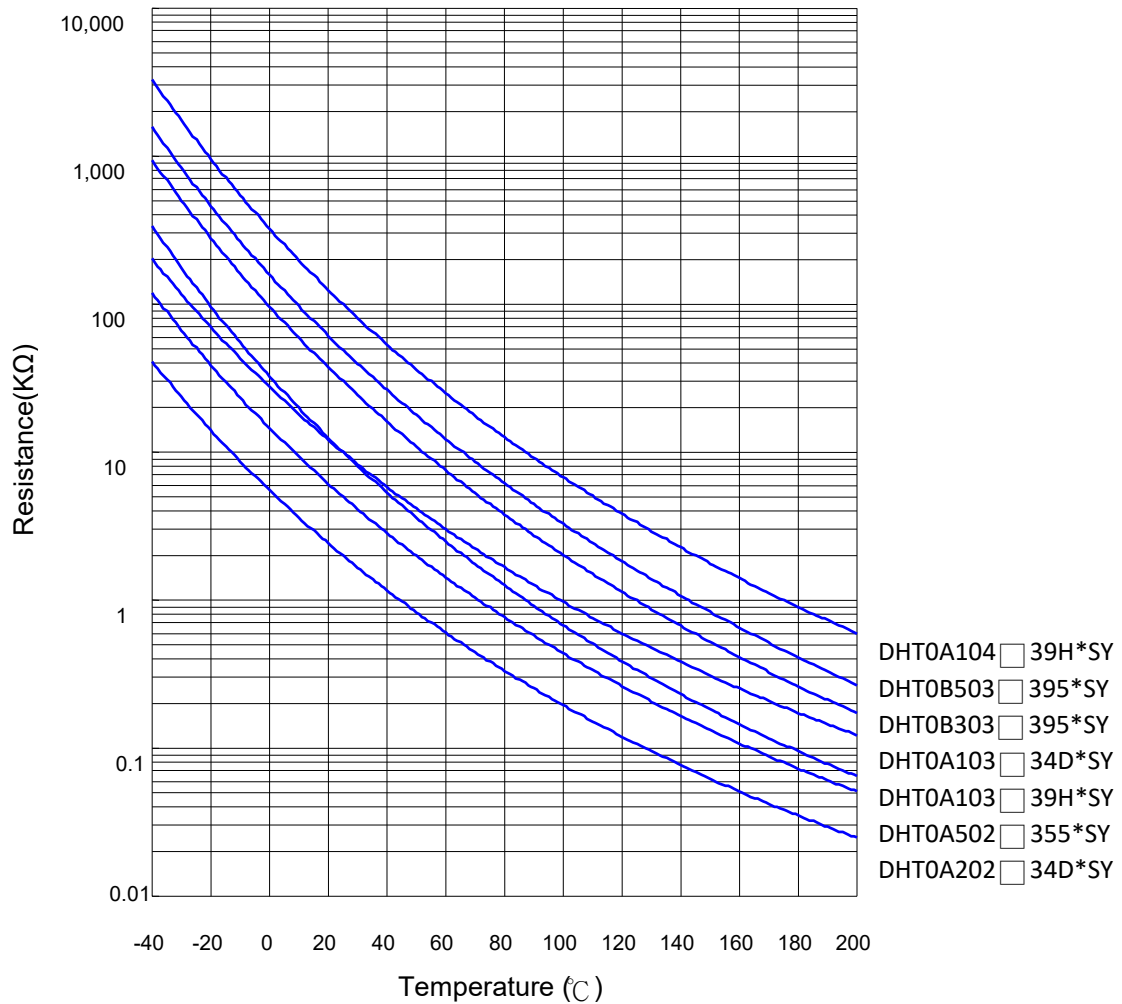
Ambient temperature (T_a) = 55°C

Maximum operating temperature (T_U) = 200°C

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

Data Sheet

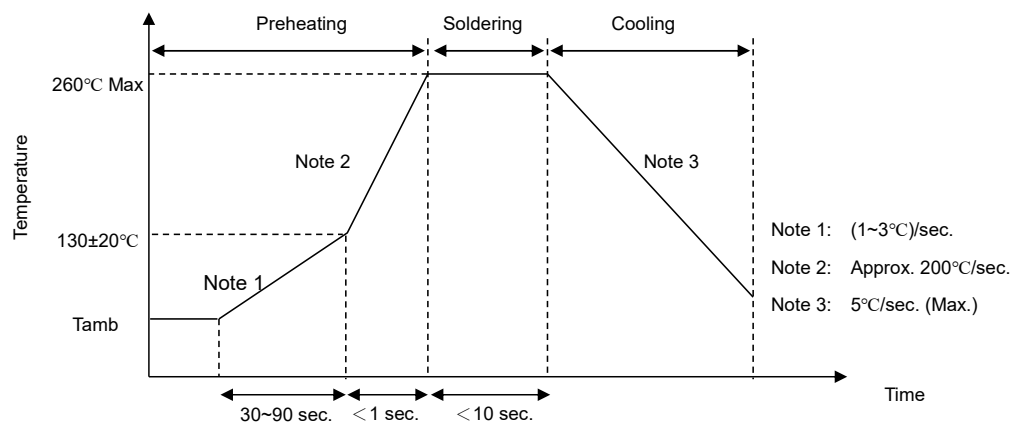
■ R-T Characteristic Curves



Data Sheet

■ Soldering Recommendation

● Wave Soldering Profile



● Recommended Reworking Conditions With Soldering Iron

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

Data Sheet

■ Reliability

Item	Standard	Test conditions / Methods	Specifications															
Tensile Strength of Terminations	IEC 60068-2-21	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	No visible damage															
Bending Strength of Terminations	IEC 60068-2-21	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	No visible damage															
Solderability	IEC 60068-2-20	245 ± 3℃, 3± 0.3 sec	At least 95% of terminal electrode is covered by new solder															
Resistance to Soldering Heat	IEC 60068-2-20	260 ± 3℃, 10 ± 1 sec	No visible damage Δ R ₂₅ /R ₂₅ ≤ 3 %															
High Temperature Storage	IEC 60068-2-2	200 ± 2℃ , 1000 ± 24 hrs	No visible damage Δ R ₂₅ /R ₂₅ ≤ 5 %															
Damp Heat, Steady State	IEC 60068-2-78	40 ± 2℃ , 90~95% RH , 1000 ± 24 hrs	No visible damage Δ R ₂₅ /R ₂₅ ≤ 3 %															
Rapid Change of Temperature	IEC 60068-2-14	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 ± 3</td><td>30 ± 3</td></tr><tr><td>2</td><td>Room temperature</td><td>≤3</td></tr><tr><td>3</td><td>200 ± 2</td><td>30 ± 3</td></tr><tr><td>4</td><td>Room temperature</td><td>≤3</td></tr></table>	Step	Temperature (℃)	Period (minutes)	1	-40 ± 3	30 ± 3	2	Room temperature	≤3	3	200 ± 2	30 ± 3	4	Room temperature	≤3	No visible damage Δ R ₂₅ /R ₂₅ ≤ 3 %
Step	Temperature (℃)	Period (minutes)																
1	-40 ± 3	30 ± 3																
2	Room temperature	≤3																
3	200 ± 2	30 ± 3																
4	Room temperature	≤3																
Max. Power Dissipation	IEC 60539-1 4.26.3	25 ± 5℃, Pmax., 1000 ± 24 hrs	No visible damage Δ R ₂₅ /R ₂₅ ≤ 5 %															