Data Sheet

Customer:	
Product:	**High Reliability SMD NTC Thermistor-NTGH Series**
Sizes.:	**0402 / 0603 / 0805**
Issued Date:	**15-Apr-25**
Edition:	**REV.A1**

RoHS Compliant

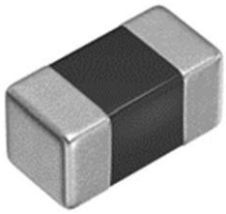
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15-Apr-25	15-Apr-25	15-Apr-25	15-Apr-25	
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High Reliability SMD NTC Thermistor



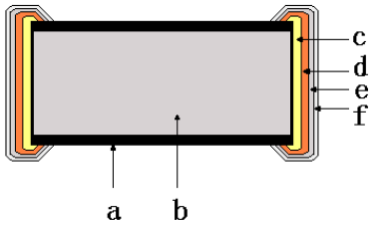
■Features

－High reliability, good resistance to mechanical stress and thermal shock.

■Applications

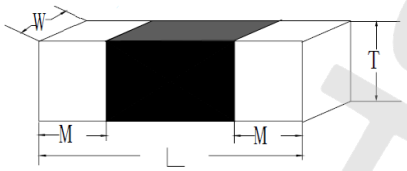
－Rechargeable batteries and supporting systems、LED car lights、small motor、cell phone、Wearable devices.

■Construction



a	Glass Layer	d	Soft Terminal Electrode
b	NTC	e	Ni Plating
c	Ag Layer	f	Sn Plating

■Dimensions



Unit: mm

Type	Size (Inch)	L (mm)	W (mm)	T (mm)	M (mm)
NTGH02	0402	1.00±0.15	0.50±0.10	0.50±0.10	0.25±0.10
NTGH03	0603	1.60±0.15	0.75±0.15	0.75±0.15	0.30±0.15
NTGH05	0805	2.00±0.20	1.25±0.20	0.75±0.20	0.50±0.20

■Part Numbering

NTGH	02	T	103	F	338	F	A
Product Type	Dimensions	Packaging Code	Resistance (25℃)	Resistance Tolerance	B-Constant	B-Constant Tolerance	B-Constant Temperature
	02: 0402 03: 0603 05: 0805	T: Taping Reel	103: 10KΩ 104: 100KΩ 105: 1000KΩ	F: 1% G: 2% H: 3% J: 5% K: 10%	338: 3380K 395: 3950K 405: 4050K 420: 4200K	F: ±1% G: ±2% H: ±3%	A: 25/50℃ B: 25/85℃

■Electrical Characteristics

0402 Type(□:Tolerance) / (25/50℃)

Part No.	Resistance (25℃)	Resistance Tolerance	B-Constant (25/50℃)	B-Constant Tolerance
NTGH02T103□338□A	10KΩ	±1, 2, 3, 5, 10%	3380K	±1, 2, 3%
NTGH02T473□395□A	47KΩ	±1, 2, 3, 5, 10%	3950K	±1, 2, 3%
NTGH02T104□395□A	100KΩ	±1, 2, 3, 5, 10%	3950K	±1, 2, 3%
NTGH02T154□395□A	150KΩ	±1, 2, 3, 5, 10%	3950K	±1, 2, 3%
NTGH02T474□405□A	470KΩ	±1, 2, 3, 5, 10%	4050K	±1, 2, 3%
NTGH02T105□430□A	1000KΩ	±1, 2, 3, 5, 10%	4300K	±1, 2, 3%
NTGH02T155□450□A	1500KΩ	±1, 2, 3, 5, 10%	4500K	±1, 2, 3%

0603 Type(□:Tolerance) / (25/50℃)

Part No.	Resistance (25℃)	Resistance Tolerance	B-Constant (25/50℃)	B-Constant Tolerance
NTGH03T103□338□A	10KΩ	±1, 2, 3, 5, 10%	3380K	±1, 2, 3%
NTGH03T473□395□A	47KΩ	±1, 2, 3, 5, 10%	3950K	±1, 2, 3%
NTGH03T104□405□A	100KΩ	±1, 2, 3, 5, 10%	4050K	±1, 2, 3%
NTGH03T154□395□A	150KΩ	±1, 2, 3, 5, 10%	3950K	±1, 2, 3%
NTGH03T474□420□A	470KΩ	±1, 2, 3, 5, 10%	4200K	±1, 2, 3%
NTGH03T684□420□A	680KΩ	±1, 2, 3, 5, 10%	4200K	±1, 2, 3%
NTGH03T105□430□A	1000KΩ	±1, 2, 3, 5, 10%	4300K	±1, 2, 3%

0805 Type(□:Tolerance) / (25/50℃)

Part No.	Resistance (25℃)	Resistance Tolerance	B-Constant (25/50℃)	B-Constant Tolerance
NTGH05T502□338□A	5KΩ	±1, 2, 3, 5, 10%	3380K	±1, 2, 3%
NTGH05T103□338□A	10KΩ	±1, 2, 3, 5, 10%	3380K	±1, 2, 3%
NTGH05T223□395□A	22KΩ	±1, 2, 3, 5, 10%	3950K	±1, 2, 3%
NTGH05T473□405□A	47KΩ	±1, 2, 3, 5, 10%	4050K	±1, 2, 3%
NTGH05T104□395□A	100KΩ	±1, 2, 3, 5, 10%	3950K	±1, 2, 3%
NTGH05T154□405□A	150KΩ	±1, 2, 3, 5, 10%	4050K	±1, 2, 3%
NTGH05T224□405□A	220KΩ	±1, 2, 3, 5, 10%	4050K	±1, 2, 3%
NTGH05T474□415□A	470KΩ	±1, 2, 3, 5, 10%	4150K	±1, 2, 3%
NTGH05T684□430□A	680KΩ	±1, 2, 3, 5, 10%	4300K	±1, 2, 3%
NTGH05T105□450□A	1000KΩ	±1, 2, 3, 5, 10%	4500K	±1, 2, 3%

■Electrical Characteristics

0402 Type(□:Tolerance) / (25/85℃)

Part No.	Resistance (25℃)	Resistance Tolerance	B-Constant (25/85℃)	B-Constant Tolerance
NTGH02T103□344□B	10KΩ	±1, 2, 3, 5, 10%	3435K	±1, 2, 3%
NTGH02T473□398□B	47KΩ	±1, 2, 3, 5, 10%	3980K	±1, 2, 3%
NTGH02T104□398□B	100KΩ	±1, 2, 3, 5, 10%	3980K	±1, 2, 3%
NTGH02T154□398□B	150KΩ	±1, 2, 3, 5, 10%	3980K	±1, 2, 3%
NTGH02T474□408□B	470KΩ	±1, 2, 3, 5, 10%	4080K	±1, 2, 3%
NTGH02T105□433□B	1000KΩ	±1, 2, 3, 5, 10%	4330K	±1, 2, 3%
NTGH02T155□453□B	1500KΩ	±1, 2, 3, 5, 10%	4530K	±1, 2, 3%

0603 Type(□:Tolerance) / (25/85℃)

Part No.	Resistance (25℃)	Resistance Tolerance	B-Constant (25/85℃)	B-Constant Tolerance
NTGH03T103□344□B	10KΩ	±1, 2, 3, 5, 10%	3435K	±1, 2, 3%
NTGH03T473□398□B	47KΩ	±1, 2, 3, 5, 10%	3980K	±1, 2, 3%
NTGH03T104□408□B	100KΩ	±1, 2, 3, 5, 10%	4080K	±1, 2, 3%
NTGH03T154□398□B	150KΩ	±1, 2, 3, 5, 10%	3980K	±1, 2, 3%
NTGH03T474□423□B	470KΩ	±1, 2, 3, 5, 10%	4230K	±1, 2, 3%
NTGH03T684□423□B	680KΩ	±1, 2, 3, 5, 10%	4230K	±1, 2, 3%
NTGH03T105□433□B	1000KΩ	±1, 2, 3, 5, 10%	4330K	±1, 2, 3%

0805 Type(□:Tolerance) / (25/85℃)

Part No.	Resistance (25℃)	Resistance Tolerance	B-Constant (25/85℃)	B-Constant Tolerance
NTGH05T502□344□B	5KΩ	±1, 2, 3, 5, 10%	3435K	±1, 2, 3%
NTGH05T103□344□B	10KΩ	±1, 2, 3, 5, 10%	3435K	±1, 2, 3%
NTGH05T223□398□B	22KΩ	±1, 2, 3, 5, 10%	3980K	±1, 2, 3%
NTGH05T473□408□B	47KΩ	±1, 2, 3, 5, 10%	4080K	±1, 2, 3%
NTGH05T104□398□B	100KΩ	±1, 2, 3, 5, 10%	3980K	±1, 2, 3%
NTGH05T154□408□B	150KΩ	±1, 2, 3, 5, 10%	4080K	±1, 2, 3%
NTGH05T224□408□B	220KΩ	±1, 2, 3, 5, 10%	4080K	±1, 2, 3%
NTGH05T474□418□B	470KΩ	±1, 2, 3, 5, 10%	4180K	±1, 2, 3%
NTGH05T684□433□B	680KΩ	±1, 2, 3, 5, 10%	4330K	±1, 2, 3%
NTGH05T105□453□B	1000KΩ	±1, 2, 3, 5, 10%	4530K	±1, 2, 3%

■Environmental Characteristics

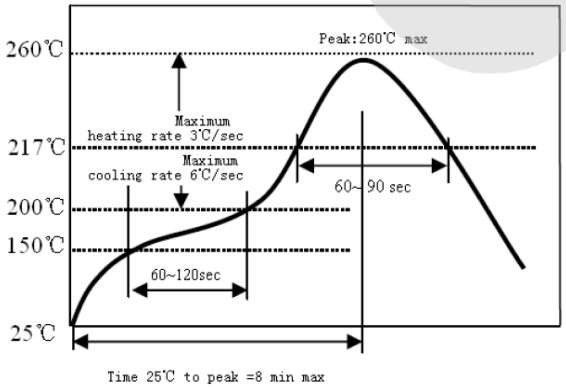
Item	Performances	Conditions
Solder ability	At least 95% of terminal electrode should be covered with solder	Preheating Temp: 120~150℃ Preheating Time: 60 sec Solder 96.5%Sn/3.0%Ag/0.5%Cu of the Sn solder Soldering temperature : 245±5℃ Immersion tin depth: 10mm Duration : 5 ± 1 sec. Dip performance to a flux of about: 3 ~ 5 sec
Resistance to Soldering	No mechanical damage R_{25} change shall be less than ±5% B-constant change shall be less than ±2%	Preheating Temp: 120~150℃ Preheating Time: 60 sec Solder 96.5%Sn/3.0%Ag/0.5%Cu of the Sn solder Soldering temperature : 260±5℃ Immersion tin depth: 10mm Duration of immersion : 10 ± 1 sec Dip performance to a flux of about: 3 ~ 5 sec
Adhesion of Electrode	The termination and body should be no damage	Type / Force(N) / Times(s) 0402 / 4 / 10± 0603 / 5 / 10± 0805 / 6 / 10±
Vibration	No mechanical damage R_{25} change shall be less than ±5% B-constant($B_{25/50}$) change shall be less than ±2%	Frequency : 10~55~10Hz Amplitude : 1.50mm Time :Vibrated for a period of 2 hrs in three directions perpendicularly intersecting each other.
Resistance to Flexure	No mechanical damage R_{25} change shall be less than ±5% B-constant change shall be less than ±2%	Type / Camber(mm) / Time(s) 0402 / 0603 / 1 / 30 0805 / 2 / 30 Condition: print circuit board Pressing speed: 0.5 mm/s
High Temperature	No mechanical damage R_{25} change shall be less than ±5% B-constant change shall be less than ±2%	Temp: 125±2℃ Test Time: 1000+24/-0 hrs
Low Temperature	No mechanical damage R_{25} change shall be less than ±5% B-constant change shall be less than ±2%	Temp: -40±2℃ Test Time: 1000+24/-0 hrs
Static Humidity	No mechanical damage R_{25} change shall be less than ±5% B-constant change shall be less than ±2%	Temp: 60±2℃ Humidity: 90~95%RH Test Time: 1000+24/-0 hrs
Temperature Shock	No mechanical damage R_{25} change shall be less than ±5% B-constant change shall be less than ±2%	-40℃×30±3min→25℃×5±3min →125℃×30±3min→25℃×5±3min 32cycles

■Storage Temperature: -10 ~ +40℃; Humidity 30%~70%RH

■Operating Temperature:-40~125℃

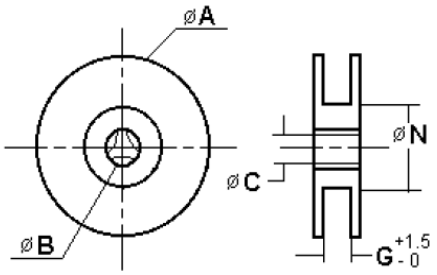
■Shelf life: 6 months max

■Reflow Soldering Condition



■Packaging

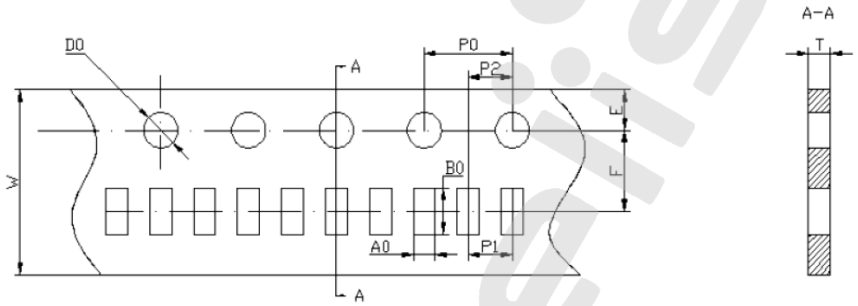
Reel Specifications & Packaging Quantity



Unit: mm

Type	A	B	C	N	G	Packaging Quality
NTGH02	178.0±2.0	22.0±2.0	12.5±1.5	57.0±2.0	8	10,000
NTGH03	178.0±2.0	22.0±2.0	12.5±1.5	57.0±2.0	8	4,000
NTGH05	178.0±2.0	22.0±2.0	12.5±1.5	57.0±2.0	8	4,000

Paper Tape Specifications

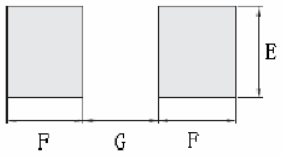


Unit: mm

Type	A0	B0	W	F	E	P1	P2	P0	D0	T
NTGH02	0.65±0.1	1.15±0.1	8.0±0.2	3.5±0.1	1.75±0.2	2.0±0.2	2.0±0.1	4.0±0.2	1.55±0.1	0.60±0.1
NTGH03	1.10±0.2	1.90±0.2	8.0±0.2	3.5±0.1	1.75±0.2	4.0±0.2	2.0±0.1	4.0±0.2	1.55±0.1	0.95±0.1
NTGH05	1.50±0.2	2.30±0.2	8.0±0.2	3.5±0.1	1.75±0.2	4.0±0.2	2.0±0.1	4.0±0.2	1.55±0.1	0.95±0.1

■Recommended Maximum Dimensions

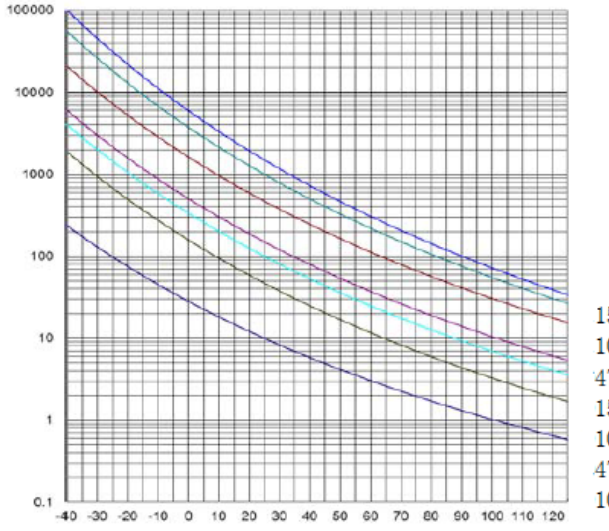
Unit: mm



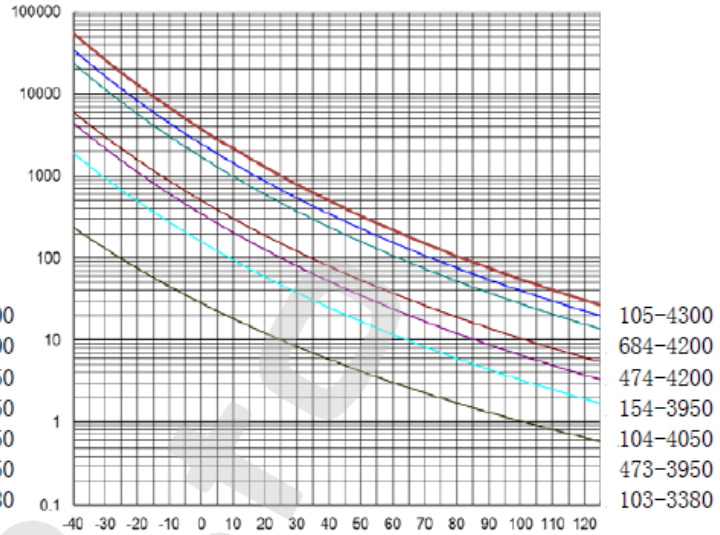
Type	E	F	G
NTGH02	0.60	0.60	0.50
NTGH03	1.00	1.00	1.00
NTGH05	1.40	1.20	1.00

■Resistance-Temperature Characteristics(25/50℃)

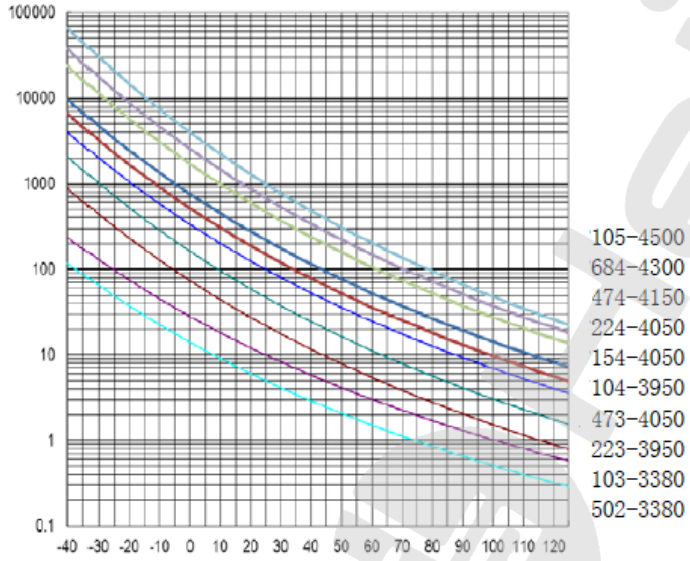
NTGH02 Series



NTGH03 Series

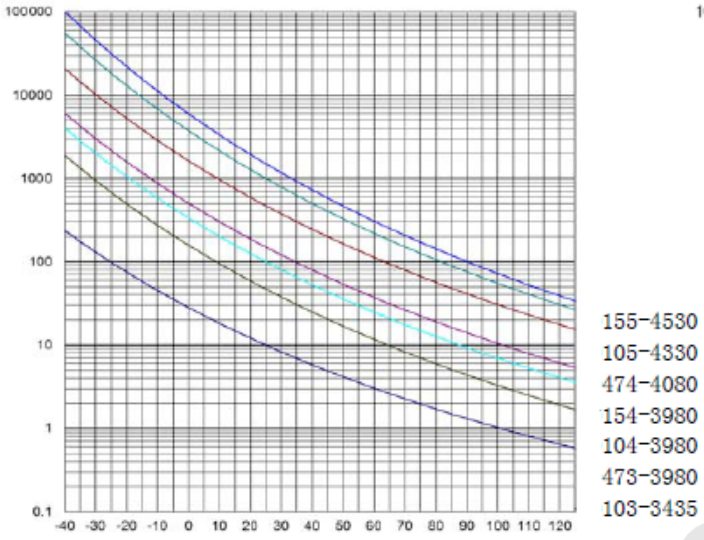


NTGH05 Series

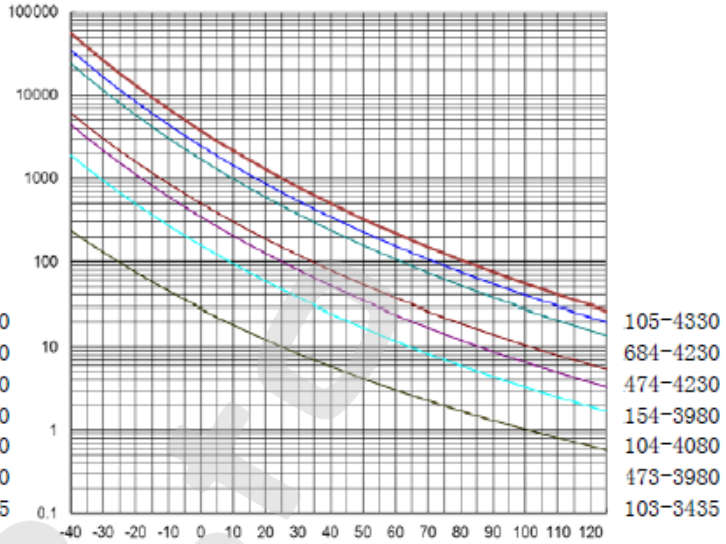


■Resistance-Temperature Characteristics(25/85℃)

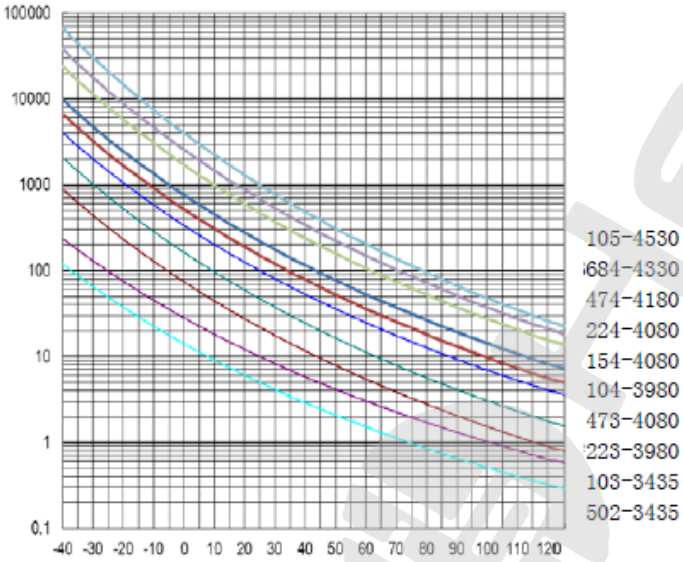
NTGH02 Series



NTGH03 Series



NTGH05 Series



REVISION HISTORY

REVISION	DATE	CHANGE NOTIFICATION	DESCRIPTION
Version A1	Apr 15 ,2025		-Add Shelf life.