THERMOMETRICS
A COMMITMENT TO EXCELLENCE

NTC Diode
Thermistors



Thermometrics NTC Diode Thermistors consist of a range of NTC chip thermistors in DO-35 style glass package (diode outline) with axial solder-coated copper-clad steel wires.

- Designed for accurate temperature measurement, control and compensation
- Tight tolerances on resistance and B value
- Operation up to 482°F (250°C) with excellent stability
- Glass body provides hermetic seal and voltage insulation and excellent stability
- Designed for cost-effective solid state sensor
- Lead wires metallurgically bonded to thermistor element for improved reliability (Type GE only)
- Resistant to corrosive atmospheres and harsh environments
- Available on axial bandolier to IEC-286-1/ EIA-468A and packet taped to EIA RS-481 for MELF
- Also available loose-packed with axial, radial and SMD wire forms

Applications

- Automotive
- Telecom (Battery Packs)
- HVAC
- White Goods
- Appliances (Rice Cookers, Electric Ranges, Ovens, etc.)
- Industrial Product Components (Pharmaceuticals, Chemicals, Food, etc.)

Amphenol
Advanced Sensors

Type DK Specifications

Chip thermistor in DO-35 glass package

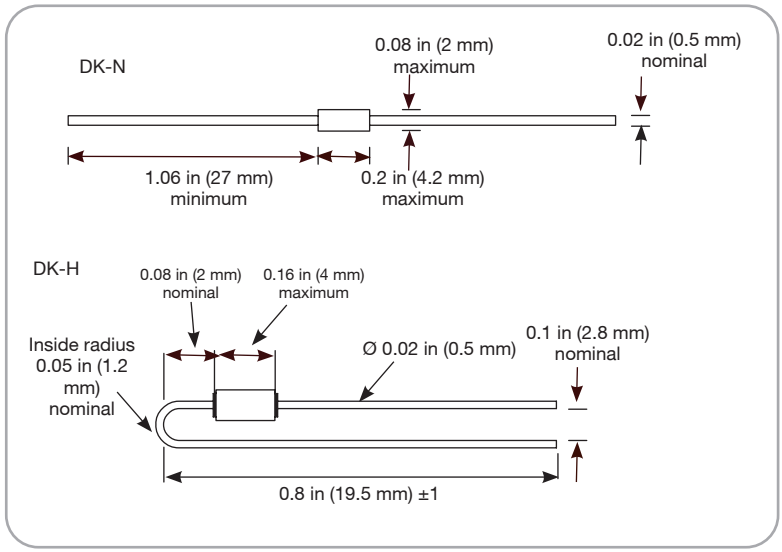
Options

- Other resistance values within the ranges shown; e.g. code DKA302*2 for 3000 Ω ±2% at 77°F (25°C)
- Reference temperatures in the range 0°F to 302°F (-18°C to 150°C)
- Operation to 572°F (300°C) (no solder coating on wires)
- Wire lengths 0.16 in to 1.26 in (4 mm to 32 mm)
  ±0.04 in (±1 mm) for DK-N; up to 1.02 in (26 mm) for DK-H

Coding

Replace * in the codes shown below as follows:

- Axial, loose-packed: N
- Axial, bandoliered: B
- Radial, loose-packed: H
- Surface mount, loose-packed: M



NTC Type DK wires should not be bent within 0.08 in (2 mm) of glass body

Data

- Operating temperature: -40°F to 482°F (-40°C to 250°C)
- Thermal time constant: 7 seconds (cooling in air)
- Dissipation factor: 3.0 mW/K
- Mass: 0.2 g
- Packing/MOQ: 1000/box (loose),
  5000/reel (bandoliered)

R25 Ω	Material system	B 25/85 K	Code R25 ±2%	Code R25 ±3%	Code R25 ±5%	Code R25 ±10%
2000	2	3540 ±1%	DKA202*2	DKA202*3	DKA202*5	DKA202*10
5000	2	3540 ±1%	DKA502*2	DKA502*3	DKA502*5	DKA502*10
10,000	2	3540 ±1%	DKA103*2	DKA103*3	DKA103*5	DKA103*10
10,000	5A	3730 ±2%		DKC103*3	DKC103*5	DKC103*10
12,000	5A	3730 ±2%	DKC123*2	DKC123*3	DKC123*5	DKC123*10
10,000	3	3960 ±1%	DKF103*2	DKF103*3	DKF103*5	DKF103*10
20,000	3	3960 ±1%	DKF203*2	DKF203*3	DKF203*5	DKF203*10
30,000	3	3960 ±1%	DKF303*2	DKF303*3	DKF303*5	DKF303*10
50,000	3	3960 ±1%	DKF503*2	DKF503*3	DKF503*5	DKF503*10
100,000	3	3960 ±1%	DKF104*2	DKF104*3	DKF104*5	DKF104*10
200,000	G	4263 ±2%			DKG204*5	DKG204*10
500,000	D	4573 ±2%			DKD504*5	DKD504*10
1,000,000	D	4573 ±2%			DKD105*5	DKD105*10

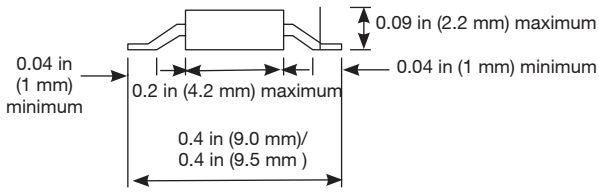
See separate tables for resistance-temperature data.
Consult factory for additional tolerance requirements.

Type DKM Specifications

Glass encapsulated SMD thermistor

Description

A range of thermistors in DO-35 style glass package (diode outline formed for surface lead-wires and applications) with solder-coated copper-clad steel lead-wires.



NTC Type DKM wires should not be bent within 0.08 in (2 mm) of glass body

Options

- Other resistance values within the ranges shown; e.g. code DKA302M2 for 3000 Ω ±2% at 77°F (25°C)
- Reference temperatures in the range 32°F to 302°F (0°C to 150°C)
- For tape and reel, add suffix “AB”
- Operation to 572°F (300°C); no solder coating on lead-wires

Data

- Operating temperature: -40°F to 482°F (-40°C to 250°C)
- Thermal time constant: 7 seconds (cooling in air)
- Dissipation factor: 3.0 mW/K
- Mass: 0.2 g
- Packing/MOQ: 1000/box (loose)

R25 Ω	Material System	B 25/85 K	Code R25 ±2%	Code R25 ±3%	Code R25 ±5%	Code R25 ±10%
2000	2	3540 ±1%	DKA202M2	DKA202M3	DKA202M5	DKA202M10
5000	2	3540 ±1%	DKA502M2	DKA502M3	DKA502M5	DKA502M10
10,000	2	3540 ±1%	DKA103M2	DKA103M3	DKA103M5	DKA103M10
10,000	5A	3730 ±2%		DKC103M3	DKC103M5	DKC103M10
10,000	3	3960 ±1%	DKF103M2	DKF103M3	DKF103M5	DKF103M10
20,000	3	3960 ±1%	DKF203M2	DKF203M3	DKF203M5	DKF203M10
30,000	3	3960 ±1%	DKF303M2	DKF303M3	DKF303M5	DKF303M10
50,000	3	3960 ±1%	DKF503M2	DKF503M3	DKF503M5	DKF503M10
100,000	3	3960 ±1%	DKF104M2	DKF104M3	DKF104M5	DKF104M10
200,000	G	4263 ±2%			DKG204M5	DKG204M10
500,000	D	4573 ±2%			DKD504M5	DKD504M10
1,000,000	D	4573 ±2%			DKD105M5	DKD105M10

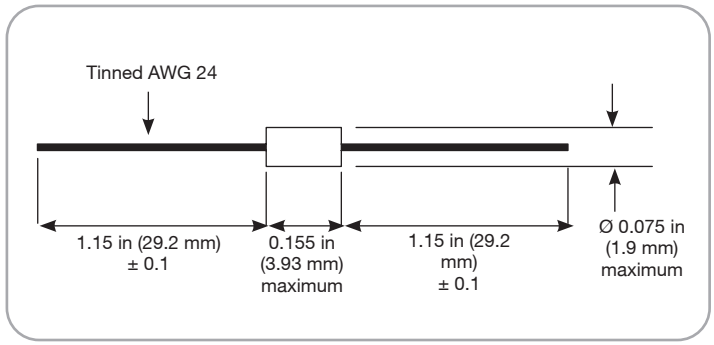
See separate tables for resistance-temperature data.
Consult factory for additional tolerance requirements.

Type GE Specifications

Glass encapsulated DO-35 package

Options

- For reel taping
- Nickel leads for welding
- Other resistances in the range 250 Ω to 5 MΩ
- Other tolerances, tolerances at other temperatures
- Alternative leads lengths, lead materials
- Can be expanded to 572°F (300°C) with nickel leads



NTC Type GE dimensions

Data

- Standard resistance tolerance: ±10% @ 77°F (25°C)
- Dissipation constant: 3.0 mW/K
- Time constant: 7 seconds
- Operating range: -58°F to 400°F (-50°C to 204°C
- Lead Wires metallurgically bonded to thermistor element for improved reliability

Ro@25°C (Ω)	Material System	Beta 25/85	Type Number
250	GE5.5*	2983	AL03006-165.9-55-G1
500	GE5.5*	2983	AL03006-331.8-55-G1
1K	GE7.3	3499	AL03006-624-73-G1
2K	GE7.3	3499	AL03006-1248-73-G1
2786	GE10.1	4102	AL03006-1576-101-G1
3K	GE7.6	3553	AL03006-1847-76-G1
4K	GE7.6	3553	AL03006-2463-76-G1
5K	GE7.6	3553	AL03006-3079-76-G1
10K	GE9.7A	3992	AL03006-5818-97-G1
20K	GE9.8	3974	AL03006-11.7K-98-G1
30K	GE9.8	3974	AL03006-17.53K-98-G1
50K	GE9.7B	3952	AL03006-29.1K-97-G1
100K	GE9.7B	3952	AL03006-58.2K-97-G1
200K	GE12.3	4365	AL03006-111.3K-123-G1
500K	GE13.8	4567	AL03006-269.8K-138-G1
1M	GE14.5	4661	AL03006-535K-145-G1
5M	GE16.4	4848	AL03006-2.6M-164-G1

**maximum operating temperature 302°F (150°C)*

Type MELF Specifications

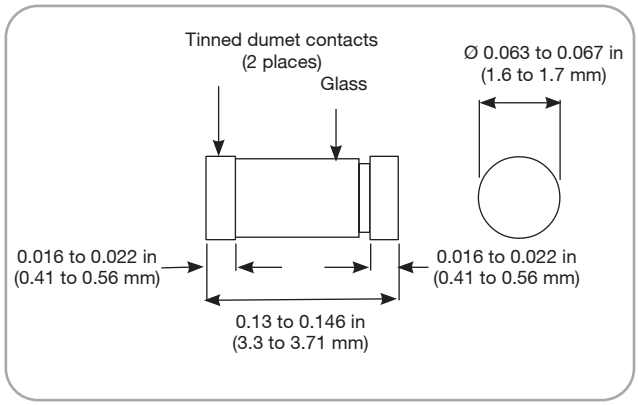
Glass encapsulated SMD thermistor

Description

Hermetically sealed, glass encapsulated thermistor in SOD-80 SMD package.

Options

- Pocket Taping
- Other resistances in the range 250 Ω to 5 MΩ available
- Other tolerances, tolerances at other temperatures



NTC Type MELF dimensions

Data

- Standard resistance tolerance: ±10% @ 77°F (25°C)
- Dissipation constant: 3.0 mW/°C
- Time constant: 7 seconds
- Operating range: -58°F to 400°F (-50°C to 204°C)

Ro@25° C (Ω)	Material System	Beta 25/85	Type Number
250	GE5.5*	2983	03006-165.9-55-G100
500	GE5.5*	2983	03006-331.8-55-G100
1K	GE7.3	3499	03006-624-73-G100
2K	GE7.3	3499	03006-1248-73-G100
2786	GE10.1	4102	03006-1576-101-G100
3K	GE7.6	3553	03006-1847-76-G100
4K	GE7.6	3553	03006-2463-76-G100
5K	GE7.6	3553	03006-3079-76-G100
10K	GE9.7A	3992	03006-5818-97-G100
20K	GE9.8	3974	03006-11.7K-98-G100
30K	GE9.8	3974	03006-17.53K-98-G100
50K	GE9.7B	3952	03006-29.1K-97-G100
100K	GE9.7B	3952	03006-58.2-97-G100
200K	GE12.3	4365	03006-111.3K-123-G100
500K	GE13.8	4567	03006-269.8K-138-G100
1M	GE14.5	4661	03006-535K-145-G100
5M	GE16.4	4848	03006-2.6M-164-G100

**maximum operating temperature 302°F (150°C)*

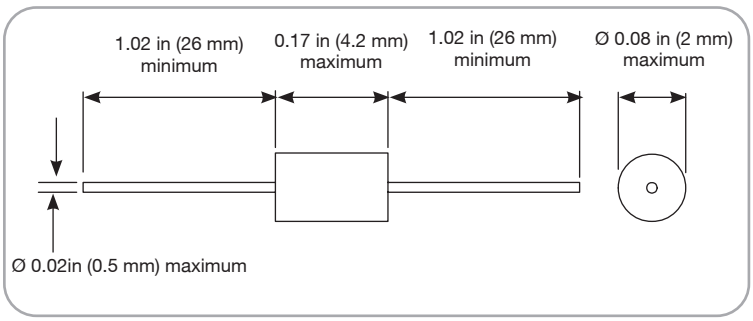
Type TH Specifications

Glass encapsulated radial lead thermistor

Part Number	Resistance (25 Ω)	ß Constant (25/50)	Recommended Maximum Operating Current at 77°F (25°C)	Maximum Permissible Current at 77°F (25°C)
TH220J33G	2.0 K	3375 K	0.22 mA	30.0 mA
TH225J37G	2.545 K	3745 K	0.22 mA	30.0 mA
TH253J34G	5.369 K	3434 K	0.16 mA	24.0 mA
TH310J34G	10.74 K	3434 K	0.13 mA	20.0 mA
TH310J37G	10.0 K	3720 K	0.14 mA	20.0 mA
TH310J39G	10.0 K	3933 K	0.14 mA	20.0 mA
TH349J39G	49.12 K	3952 K	0.06 mA	10.0 mA
TH350J39G	50.0 K	3952 K	0.06 mA	10.0 mA
TH410J40G	100.0 K	4014 K	0.045 mA	5.0 mA
TH420J34G	200.0 K	3450 K	0.015 mA	3.5 mA
TH423J41G	231.4 K	4176 K	0.015 mA	3.5 mA
TH513J45G	1,388 K	4491 K	0.005 mA	1.0 mA

- The tolerance of resistance is ±5% for standard device
- The tolerance of B constant is ±2% for standard device The constant is determined by the equation:
  B = 3853.9 ln (R25/R50)
  R25 and R50 represent the thermistor resistance at 77°F and 122°F (25°C and 50°C) respectively
- Others: For non-standard devices, consult Thermometrics

Dissipation Factor (in still air)	Time Constant (in still air)	Operating Temperature Range	Rated Power at 77°F (25°C)
2.0 (mW/°C)	25 (seconds)	-40°F to 392°F (-40°C to 200°C)	25 mW



NTC Type TH dimensions

Explanation of Part Number

TH	410	S	40	F	D	SN	–	T5
(1)	(2)	(3)	(4)	(5)	(6)	(7)		(8)

1	2	3 / 5	4	6	7	8
Type	Resistance R(25°C)	Resistance / B Value Tolerance	B Value Range	Standard Temperature	Lead Wire Type	Packing & Other Description
Diode Type Thermistor	225:25x10^2 = 2.5kΩ 310:10x103 =10kΩ 410:10x10^4 =100kΩ	F : ± 1% G : ± 2% H : ± 3% J : ± 5% K : ± 10% L : ± 15% M : ± 20% : : S : others S : ± 1.5%	33:3300k ~3399k 40:4000k ~4099k 42:4200k ~4299k	J : -18°C A : 0°C B : 25°C C : 50°C D : 75°C E : 85°C F : 100°C G : 150°C H : 200°C : : S : others	NR : CP wire NI : Ni plated Sn : Sn plated : : : : S : others	T5 : Taping (52mm, Ammo) ---------- R3 : Reel (52mm, 3KP) ---------- C11 : 11mm (Wire cutting) ---------- Other Special Shape or Dim

Amphenol

Advanced Sensors

www.amphenol-sensors.com

© 2020 Amphenol Corporation. All Rights Reserved. Specifications are subject to change without notice.
Other company names and product names used in this document are the registered trademarks or trademarks of their respective owners.

AAS-920-320F - 09/2020