

NTC Thermistors, Screw Threaded Insulated Leads Sensors



LINKS TO ADDITIONAL RESOURCES



For complete RT curve computation, visit:
www.vishay.com/thermistors/ntc-curve-list/

QUICK REFERENCE DATA		
PARAMETER	VALUE	UNIT
Resistance value at 25 °C	10K	Ω
Tolerance on R_{25} -value	± 2	%
$B_{25/85}$ -value	3984	K
Tolerance on $B_{25/85}$ -value	± 0.5	%
Operating temperature range at: Zero dissipation	-40 to +125	°C
Maximum power dissipation	0 to +55	
Dissipation factor (still air 25 °C)	≈ 5	mW/K
Maximum power dissipation	50	mW
Min. dielectric withstanding voltage between terminals and brass case	500	V _{AC}
Insulation resistance between terminals and brass case	Min. 100	M Ω
Weight	2.1	g

FEATURES

- Easy mounting with thread
- Rugged construction
- Mounting: assembly threaded screw mounting
- Material categorization:
for definitions of compliance please see
www.vishay.com/doc?99912



RoHS
COMPLIANT

APPLICATIONS

- Temperature measurement, sensing, and control
- Suitable for surface temperature applications, especially when a good electrical insulation and a good thermal contact with the chassis is required
- Industrial
- Consumer appliances

DESCRIPTION

The thermistor is made of NTC ceramic material soldered to the cable conductors and potted in the head of the brass screw.

The screw thread is of the tap size no. 6, with 32 thread-per-inch, under the Unified National Coarse definition (6-32 UNC ISO68-2 ISO263).

The cables are multi-stranded copper AWG#28, UL 3656 certified, with XLPE insulation, and a rating of 125 °C and 300 V.

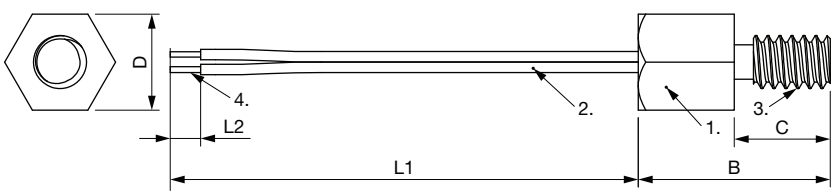
MOUNTING

Inserted in a threaded hole (for example tapping #36 / 2.85 mm) or in a clearance hole (for example clearance drill #25 / 3.80 mm).

The product is not intended to be mounted in direct contact with water or liquids.

The recommended torque is 0.89 N · m / 7.9 inch-pounds.
Leads conductors can be soldered or crimped.

DIMENSIONS in millimeters

				
L1	L2	B	C	D
200 +10 / -15	2.5 \pm 1	12.70 \pm 1	6.35 \pm 1	6.35 \pm 1

Notes

1. NTC chip with epoxy coating and potting
2. Insulated leads: UL 3656 style, XLPE insulated, rating 125 °C, rating 300 V, AWG#28
3. 6-32 UNC threaded brass hex housing
4. Lead wire end is stripped

ELECTRICAL DATA AND ORDERING INFORMATION

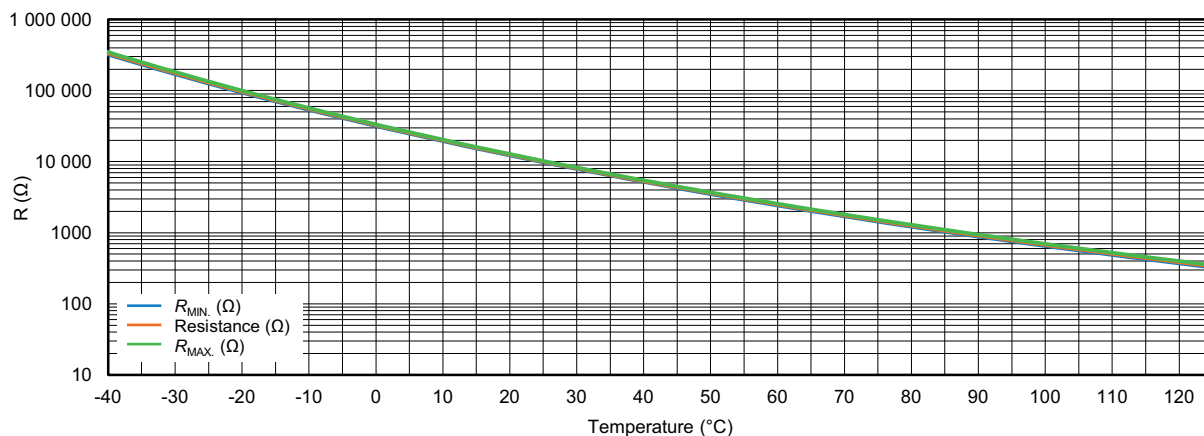
R_{25} (Ω)	R_{25} -TOL. (\pm %)	$B_{25/85}$ (K)	$B_{25/85}$ -TOL. (\pm %)	SAP MATERIAL AND ORDERING NUMBER	DESCRIPTION
10 000	2	3984	0.5	NTCASCWE3C70001	NTC screw 10K 2 % 3984K AWG28 6-32 UNC

**RESISTANCE TEMPERATURE CHARACTERISTICS**

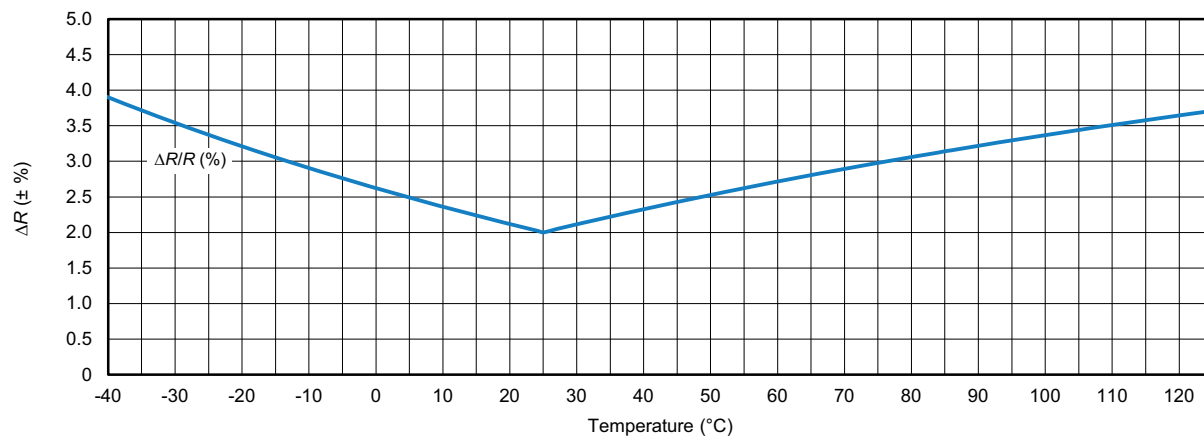
TEMP. (°C)	$R(T)/R_{25}$	RESISTANCE (Ω)	$\Delta R/R$ (%)	α (%/K)	ΔT (\pm K)	$R_{MIN.}$ (Ω)	$R_{MAX.}$ (Ω)
-40	33.427	334 274.4	3.90	-6.63	0.59	321 238.0	347 310.8
-35	24.132	241 322.9	3.72	-6.41	0.58	232 353.0	250 292.7
-30	17.613	176 132.5	3.54	-6.19	0.57	169 894.8	182 370.3
-25	12.990	129 900.0	3.37	-5.99	0.56	125 518.3	134 281.7
-20	9.676	96 761.1	3.21	-5.79	0.55	93 653.8	99 868.5
-15	7.276	72 764.6	3.06	-5.61	0.54	70 540.9	74 988.2
-10	5.522	55 218.1	2.91	-5.43	0.54	53 613.2	56 823.0
-5	4.227	42 267.8	2.76	-5.26	0.53	41 100.2	43 435.5
0	3.262	32 624.2	2.62	-5.10	0.51	31 768.3	33 480.2
5	2.538	25 381.4	2.49	-4.94	0.50	24 749.4	26 013.4
10	1.990	19 896.9	2.36	-4.80	0.49	19 427.1	20 366.7
15	1.571	15 711.3	2.24	-4.65	0.48	15 359.9	16 062.6
20	1.249	12 492.7	2.12	-4.52	0.47	12 228.4	12 757.1
25	1.000	10 000.0	2.00	-4.39	0.46	9800.0	10 200.0
30	0.806	8056.0	2.11	-4.26	0.50	7885.8	8226.1
35	0.653	6529.7	2.22	-4.14	0.54	6384.7	6674.8
40	0.532	5323.9	2.33	-4.03	0.58	5200.0	5447.7
45	0.437	4365.3	2.43	-3.92	0.62	4259.3	4471.3
50	0.360	3598.7	2.53	-3.81	0.66	3507.8	3689.7
55	0.298	2982.3	2.62	-3.71	0.71	2904.0	3060.5
60	0.248	2483.8	2.72	-3.61	0.75	2416.4	2551.3
65	0.208	2078.7	2.81	-3.51	0.80	2020.3	2137.0
70	0.175	1747.7	2.89	-3.42	0.85	1697.1	1798.2
75	0.148	1475.9	2.98	-3.34	0.89	1432.0	1519.9
80	0.125	1251.8	3.06	-3.25	0.94	1213.5	1290.1
85	0.107	1066.1	3.14	-3.17	0.99	1032.6	1099.6
90	0.091	911.6	3.22	-3.09	1.04	882.2	940.9
95	0.078	782.5	3.30	-3.02	1.09	756.7	808.2
100	0.067	674.1	3.37	-2.94	1.14	651.4	696.8
105	0.058	582.8	3.44	-2.87	1.20	562.8	602.9
110	0.051	505.7	3.51	-2.81	1.25	487.9	523.4
115	0.044	440.2	3.58	-2.74	1.31	424.4	455.9
120	0.038	384.4	3.65	-2.68	1.36	370.4	398.4
125	0.034	336.7	3.71	-2.62	1.42	324.2	349.2



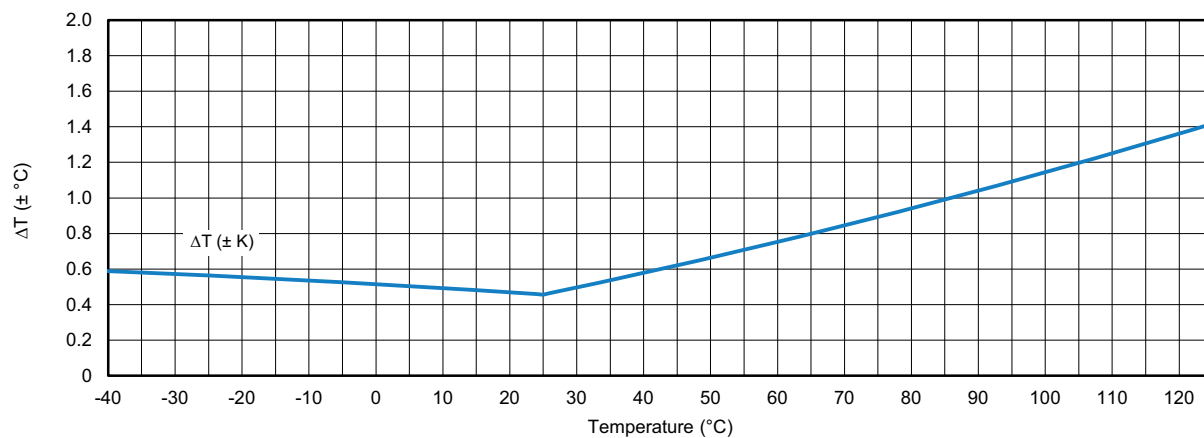
RT CURVE



$\Delta R (\pm \%)$



$\Delta T (\pm ^{\circ}\text{C})$





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