NTC Thermistors, 2-Point Mini Chip Sensor, Flexible Leads



LINKS TO ADDITIONAL RESOURCES

3D Models | Design Tools | Related Documents

FEATURES

- Accuracy of 0.5 °C between 0 °C and 50 °C
- Small 2.4 mm diameter
- High stability over a long life
- Long and flexible leads for special mounting or assembly requirements
- AEC-Q200 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free Available

e3

RoHS COMPLIANT

APPLICATIONS

- Temperature measurement, sensing and control in automotive, industrial and consumer electronic equipment

DESCRIPTION

These negative temperature coefficient thermistors consist of a mini-chip soldered between two AWG#30 ETFE insulated (LE300) or non-insulated (LE201) 0.3 mm nickel leads and coated with a solid ocher color epoxy lacquer

PACKAGING

The thermistors are packed in cardboard boxes; the smallest packing quantity is 1000 units

MARKING

The coated body has no markings.

MOUNTING

Important mounting and handling instructions: see www.vishay.com/doc?29222

By soldering in any position.

DESIGN-IN SUPPORT

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

QUICK REFERENCE DATA

PARAMETER	VALUE	UNIT
Resistance value at 25 °C	3K to 10K	Ω
Tolerance on R_{25}-value	± 2.18	%
$B_{25/85}$-value	3977	K
Tolerance on $B_{25/85}$-value	± 0.75	%
Operating temperature range at zero dissipation	-40 to +125	°C
Accuracy for T measured between 0 °C and 50 °C	± 0.5	°C
Maximum power dissipation at 55 °C	100	mW
Min. dielectric withstanding voltage between terminals and coated body	500	V_{AC}
Weight	≈ 0.2	g

ELECTRICAL DATA AND ORDERING INFORMATION

R_{25} (Ω)	R_{25}-TOL. (± %)	$B_{25/85}$ (K)	$B_{25/85}$-TOL. (± %)	SAP MATERIAL AND ORDERING NUMBER	
				RoHS-COMPLIANT WITH EXEMPTION (1)	RoHS-COMPLIANT
3000	2.18	3977	0.75	NTCLE201E3302SB	NTCLE201E3302SBA
5000	2.18	3977	0.75	NTCLE201E3502SB	NTCLE201E3502SBA
10 000	2.18	3977	0.75	NTCLE201E3103SB	NTCLE201E3103SBA
3000	2.18	3977	0.75	NTCLE300E3302SB	NTCLE300E3302SBA
5000	2.18	3977	0.75	NTCLE300E3502SB	NTCLE300E3502SBA
10 000	2.18	3977	0.75	NTCLE300E3103SB	NTCLE300E3103SBA

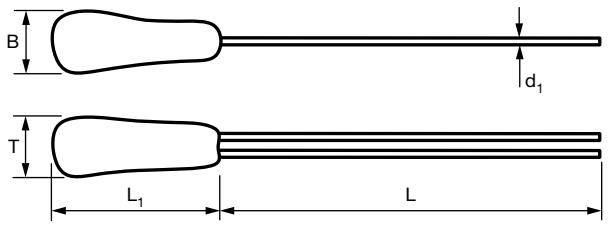
Notes

Preferred versions for new designs

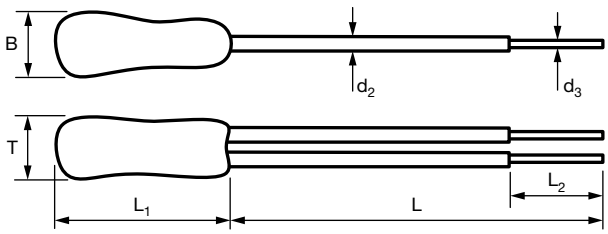
(1) RoHS exemption 7(c)-I: electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezo-electronic devices, or in a glass or ceramic matrix compound

DIMENSIONS in millimeters

Component outline for NTCLE201E3...



Component outline for NTCLE300E3...



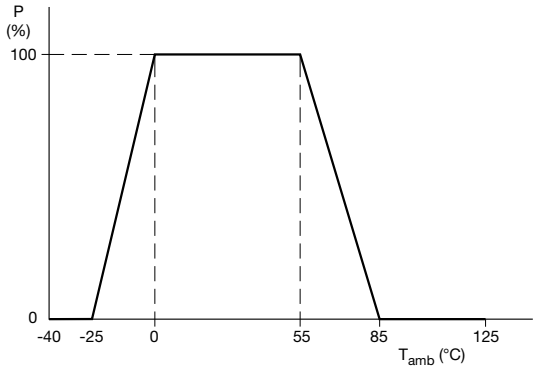
T	B	L	L_1	L_2	Ø d_1	Ø d_2	Ø d_3
2.4 max.	2.4 max.	38 ± 2	8.0 max.	6 ± 1	0.30 ± 0.03	0.58 max.	0.25 ± 0.025

For technical questions, contact: nlr@vishay.com

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DERATING



Power derating curve

Note

- Zero power is considered as measuring power max. 1 % of max. power

RESISTANCE VALUES AT INTERMEDIATE TEMPERATURES

T_{OPER} (°C)	R_T/R_{25}	T-TOL. (± K)	TCR (%/K)	R_T-VALUE (kΩ) NTCLE201E3...SB(A) OR NTCLE300E3...SB(A)		
				302	502	103
-40	33.21	0.68	-6.57	99.63	166.1	332.1
-35	23.99	0.66	-6.36	71.97	120.0	239.9
-30	17.52	0.64	-6.15	52.56	87.60	175.2
-25	12.93	0.62	-5.95	38.79	64.65	129.3
-20	9.636	0.59	-5.76	28.91	48.18	96.36
-15	7.250	0.57	-5.58	21.75	36.25	72.50
-10	5.505	0.55	-5.40	16.51	27.52	55.05
-5	4.216	0.52	-5.24	12.65	21.08	42.16
0	3.255	0.50	-5.08	9.766	16.28	32.56
5	2.534	0.50	-4.92	7.602	12.67	25.34
10	1.987	0.50	-4.78	5.962	9.936	19.87
15	1.570	0.50	-4.64	4.710	7.849	15.70
20	1.249	0.50	-4.50	3.746	6.244	12.49
25	**1.000**	**0.50**	**-4.37**	**3.000**	**5.000**	**10.00**
30	0.8059	0.50	-4.25	2.418	4.030	8.059
35	0.6535	0.50	-4.13	1.960	3.267	6.535
40	0.5330	0.50	-4.02	1.599	2.665	5.330
45	0.4372	0.50	-3.91	1.312	2.186	4.372
50	0.3605	0.50	-3.80	1.082	1.803	3.606
55	0.2989	0.55	-3.70	0.8966	1.494	2.989
60	0.2490	0.61	-3.60	0.7470	1.245	2.490
65	0.2084	0.66	-3.51	0.6253	1.042	2.084
70	0.1753	0.72	-3.42	0.5259	0.8765	1.753
75	0.1481	0.77	-3.33	0.4443	0.7405	1.481
80	0.1256	0.83	-3.25	0.3769	0.6282	1.256
85	0.1070	0.89	-3.16	0.3211	0.5352	1.070
90	0.09154	0.95	-3.09	0.2746	0.4577	0.9154
95	0.07860	1.02	-3.01	0.2358	0.3930	0.7860
100	0.06773	1.08	-2.94	0.2032	0.3387	0.6773
105	0.05858	1.14	-2.87	0.1757	0.2929	0.5858
110	0.05083	1.21	-2.80	0.1525	0.2542	0.5083
115	0.04426	1.27	-2.73	0.1328	0.2213	0.4426
120	0.03866	1.34	-2.67	0.1160	0.1933	0.3866
125	0.03387	1.41	-2.61	0.1016	0.1694	0.3387

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