

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



LINKS TO ADDITIONAL RESOURCES



3D Models



Design Tools



Related Documents

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

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



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 other 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/

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	
				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

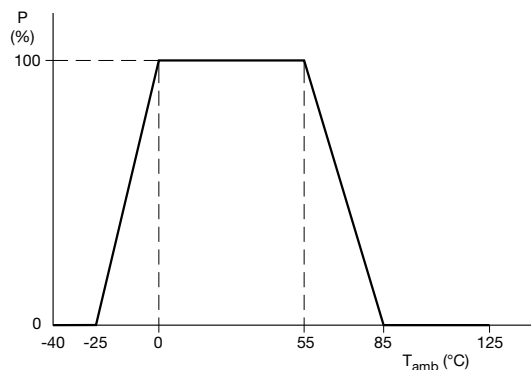
Preferred versions for new designs

⁽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



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



Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

Vishay products are not designed for use in life-saving or life-sustaining applications or any application in which the failure of the Vishay product could result in personal injury or death unless specifically qualified in writing by Vishay. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.