

NTC Thermistors, Molded Range



FEATURES

- Excellent for surface temperature measurement
- Designed for harsh environments
- Based on the "2322 640 0...." naked thermistor chips.
- Old part number was 2322 641 6....
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

APPLICATIONS

- Temperature control.

These thermistors have a negative temperature coefficient. The device consists of a moulded chip with two tin-plated solid nickel leads. The body color is white and the device is non-flammable.

PACKAGING

The smallest packing quantity is 500 units.

MARKING

White coloured body.

MOUNTING

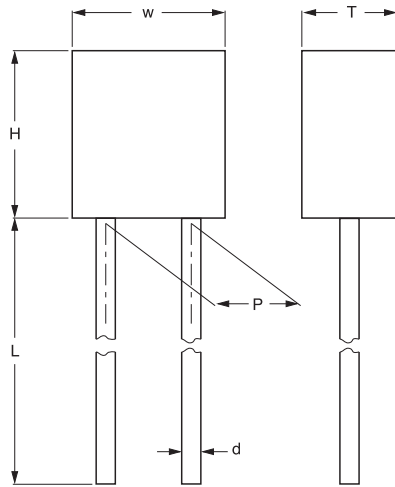
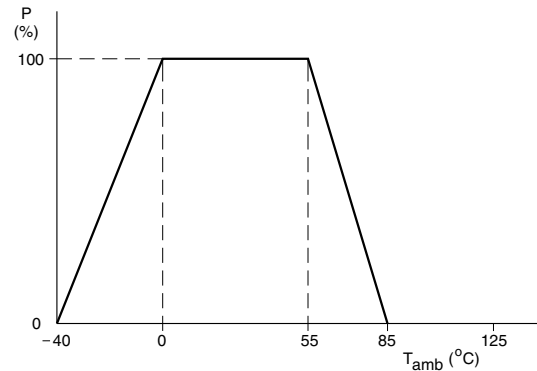
By soldering in any position or mechanical fixing.

QUICK REFERENCE DATA	
PARAMETER	VALUE
Resistance value at 25 °C (R ₂₅)	2.2 to 470 kΩ
Tolerance on R ₂₅ -value	±2%, ±3%, ±5%, ±10%
B _{25/85} -values	3740 to 4570 K
Maximum dissipation	250 mW
Response time	≈2.7 s
Operating temperature range: at zero dissipation at maximum dissipation	-40 to +125 °C 0 to 55 °C
Minimum dielectric withstanding voltage (RMS) between leads and lead insulation	350 V
Minimum insulation resistance between leads and lead insulation at 100 V (DC)	100 MΩ
Climatic category	40/125/56
Mass	≈0.3 g

ELECTRICAL DATA AND ORDERING INFORMATION											
R ₂₅ (kΩ)	TC (%/K)	MASS (g)	W (mm)	H (mm)	L (mm)	P (mm)	T (mm)	d (mm)	B _{25/85}		CATALOG NUMBER 2381 641 ⁽²⁾
									K	TOL. (%)	
2.2	-4.37	≈0.3	4 ±0.2	4.4 ±0.2	21 ±1	2.54 ±0.3	2.5 ±0.2	0.6 ±0.15	3977	±0.75	6.222
2.7	-4.37	≈0.3	4 ±0.2	4.4 ±0.2	21 ±1	2.54 ±0.3	2.5 ±0.2	0.6 ±0.15	3977	±0.75	6.272
12	-4.10	≈0.3	4 ±0.2	4.4 ±0.2	21 ±1	2.54 ±0.3	2.5 ±0.2	0.6 ±0.15	3740	±2.0	6.123
15	-4.10	≈0.3	4 ±0.2	4.4 ±0.2	21 ±1	2.54 ±0.3	2.5 ±0.2	0.6 ±0.15	3740	±2.0	6.153
33	-4.46	≈0.3	4 ±0.2	4.4 ±0.2	21 ±1	2.54 ±0.3	2.5 ±0.2	0.6 ±0.15	4090	±1.5	6.333
100	-4.57	≈0.3	4 ±0.2	4.4 ±0.2	21 ±1	2.54 ±0.3	2.5 ±0.2	0.6 ±0.15	4190	±1.5	6.104
470	-4.95	≈0.3	4 ±0.2	4.4 ±0.2	21 ±1	2.54 ±0.3	2.5 ±0.2	0.6 ±0.15	4570	±1.5	6.474

Note

1. R₂₅-values, TC, mass, dimensions and catalog numbers.
 - a) Other R₂₅-values are available on request.
2. Replace dot in the code numbers by one of the following, depending on required R₂₅-value:
 - 4 for a tolerance of ±2%
 - 6 for a tolerance of ±3%
 - 3 for a tolerance of ±5%
 - 2 for a tolerance of ±10%

DIMENSIONS in millimeters

DERATING


Power derating curve.

For dimensions see Electrical Data and Ordering Information Table

RESISTANCE VALUES AT INTERMEDIATE TEMPERATURES					
T_{oper} (°C)	R_T/R_{25}	ΔR DUE TO B-TOLERANCE (%)	TC (%/K)	R_T (Ω)	
				2381 641 ⁽¹⁾	
				6.222	6.272
-40	33.21	2.66	-6.57	73062	89667
-35	23.99	2.41	-6.36	52779	64774
-30	17.52	2.17	-6.15	38545	47305
-25	12.93	1.94	-5.95	28444	34908
-20	9.636	1.71	-5.76	21199	26017
-15	7.250	1.50	-5.58	15950	19575
-10	5.505	1.29	-5.40	12110	14863
-5	4.216	1.08	-5.24	9275	11383
0	3.255	0.89	-5.08	7162	8790
5	2.534	0.70	-4.92	5575	6842
10	1.987	0.52	-4.78	4372	5366
15	1.570	0.34	-4.64	3454	4239
20	1.249	0.17	-4.50	2747	3372
25	1.000	0.00	-4.37	2200	2700
30	0.8059	0.16	-4.25	1773	2176
35	0.6535	0.32	-4.13	1438	1764
40	0.5330	0.47	-4.02	1173	1439
45	0.4372	0.62	-3.91	961.8	1180
50	0.3605	0.77	-3.80	793.2	973.4
55	0.2989	0.91	-3.70	657.5	807.0
60	0.2490	1.05	-3.60	547.8	672.3
65	0.2084	1.18	-3.51	458.6	562.8
70	0.1753	1.31	-3.42	385.7	473.3
75	0.1481	1.44	-3.33	325.8	399.9
80	0.1256	1.57	-3.25	276.4	339.2
85	0.1070	1.69	-3.16	235.5	289.0
90	0.09154	1.81	-3.09	201.4	247.2
95	0.07860	1.93	-3.01	172.9	212.2
100	0.06773	2.04	-2.94	149.0	182.9
105	0.05858	2.15	-2.87	128.9	158.2
110	0.05083	2.26	-2.80	111.8	137.2
115	0.04426	2.37	-2.73	97.37	119.5
120	0.03866	2.47	-2.67	85.05	104.4
125	0.03387	2.57	-2.61	74.52	91.46



RESISTANCE VALUES AT INTERMEDIATE TEMPERATURES					
T_{oper} (°C)	R_T/R_{25}	ΔR DUE TO B-TOLERANCE (%)	TC (%/K)	R_T (Ω)	
				2381 641 ⁽¹⁾	
				6.123	6.153
-40	25.78	6.81	-6.09	309403	386754
-35	19.13	6.16	-5.89	229509	286887
-30	14.32	5.53	-5.70	171844	214805
-25	10.82	4.93	-5.52	129828	162285
-20	8.245	4.35	-5.35	98935	123669
-15	6.335	3.80	-5.19	76020	95025
-10	4.907	3.26	-5.03	58880	73600
-5	3.830	2.74	-4.88	45954	57443
0	3.011	2.24	-4.73	36130	45163
5	2.384	1.76	-4.60	28607	35759
10	1.900	1.30	-4.46	22805	28506
15	1.525	0.85	-4.34	18298	22872
20	1.231	0.42	-4.21	14774	18467
25	1.000	0.00	-4.10	12000	15000
30	0.8171	0.41	-3.98	9804	12255
35	0.6712	0.80	-3.88	8054	10068
40	0.5543	1.19	-3.77	6652	8315
45	0.4602	1.57	-3.67	5522	6903
50	0.3839	1.94	-3.57	4607	5759
55	0.3219	2.30	-3.48	3862	4828
60	0.2710	2.65	-3.39	3252	4066
65	0.2293	2.99	-3.30	2751	3439
70	0.1947	3.33	-3.22	2337	2921
75	0.1661	3.66	-3.14	1993	2492
80	0.1422	3.98	-3.06	1707	2134
85	0.1223	4.29	-2.99	1467	1834
90	0.1055	4.60	-2.92	1266	1583
95	0.09135	4.90	-2.85	1096	1370
100	0.07937	5.19	-2.78	952.2	1190
105	0.06919	5.48	-2.71	830.2	1038
110	0.06050	5.76	-2.65	726.0	907.5
115	0.05307	6.04	-2.59	636.9	796.1
120	0.04670	6.31	-2.53	560.4	700.5
125	0.04121	6.57	-2.47	494.5	618.1

RESISTANCE VALUES AT INTERMEDIATE TEMPERATURES					
T_{oper} (°C)	R_T/R_{25}	ΔR DUE TO B-TOLERANCE (%)	TC (%/K)	R_T (Ω)	
				2381 641 ⁽¹⁾	
				6.104	
-40	36.66	5.69	-6.70	3666321	
-35	26.38	5.15	-6.49	2637604	
-30	19.17	4.63	-6.29	1916588	
-25	14.06	4.13	-6.10	1406120	
-20	10.41	3.65	-5.92	1041190	
-15	7.779	3.18	-5.74	777851	
-10	5.861	2.73	-5.57	586100	
-5	4.453	2.30	-5.41	445260	
0	3.409	1.88	-5.26	340944	
5	2.631	1.48	-5.11	263055	
10	2.044	1.09	-4.97	204447	
15	1.600	0.72	-4.83	160015	
20	1.261	0.35	-4.70	126087	
25	1.000	0.00	-4.57	100000	
30	0.7981	0.34	-4.45	79808	



T _{oper} (°C)	R _T /R ₂₅	ΔR DUE TO B-TOLERANCE (%)	TC (%/K)	R _T (Ω)
				2381 641 ⁽¹⁾
				6.104
35	0.6408	0.67	-4.35	64077
40	0.5175	1.00	-4.22	51746
45	0.4202	1.32	-4.11	42021
50	0.3431	1.63	-4.00	34308
55	0.2816	1.93	-3.90	28156
60	0.2322	2.22	-3.80	23223
65	0.1925	2.51	-3.71	19246
70	0.1602	2.79	-3.62	16025
75	0.1340	3.06	-3.53	13402
80	0.1126	3.33	-3.45	11258
85	0.09496	3.59	-3.36	9496
90	0.08042	3.85	-3.28	8042
95	0.06837	4.10	-3.21	6837
100	0.05835	4.35	-3.13	5835
105	0.04998	4.59	-3.06	4998
110	0.04296	4.82	-2.99	4296
115	0.03705	5.05	-2.92	3705
120	0.03206	5.28	-2.86	3206
125	0.02783	5.50	-2.80	2783

RESISTANCE VALUES AT INTERMEDIATE TEMPERATURES

T _{oper} (°C)	R _T /R ₂₅	ΔR DUE TO B-TOLERANCE (%)	TC (%/K)	R _T (Ω)
				2381 641 ⁽¹⁾
				6.474
-40	48.62	6.22	-7.13	22849885
-35	34.19	5.63	-6.91	16068156
-30	24.28	5.06	-6.71	11412861
-25	17.42	4.51	-6.52	8185271
-20	12.61	3.98	-6.33	5925780
-15	9.211	3.47	-6.15	4329092
-10	6.788	2.98	-5.98	3190465
-5	5.045	2.51	-5.82	2371302
0	3.781	2.06	-5.66	1776920
5	2.855	1.62	-5.50	1342065
10	2.173	1.19	-5.36	1021372
15	1.666	0.78	-5.22	783037
20	1.286	0.38	-5.08	604583
25	1.000	0.00	-4.95	470000
30	0.7825	0.37	-4.82	367792
35	0.6163	0.74	-4.70	289646
40	0.4883	1.09	-4.59	229509
45	0.3892	1.44	-4.47	182938
50	0.3120	1.77	-4.36	146652
55	0.2515	2.10	-4.26	118215
60	0.2038	2.43	-4.15	95801
65	0.1660	2.74	-4.06	78037
70	0.1359	3.05	-3.96	63884
75	0.1118	3.35	-3.87	52549
80	0.09240	3.64	-3.78	43427
85	0.07670	3.93	-3.69	30055
90	0.06395	4.21	-3.61	25163
95	0.05354	4.48	-3.53	21153
100	0.04501	4.75	-3.45	17852
105	0.03798	5.01	-3.37	15123
110	0.03218	5.27	-3.30	12859
115	0.02736	5.52	-3.23	10973
120	0.02335	5.77	-3.16	9396
125	0.01999	6.01	-3.09	9325



RESISTANCE VALUES AT INTERMEDIATE TEMPERATURES				
T_{oper} (°C)	R_T/R_{25}	ΔR DUE TO B-TOLERANCE (%)	TC (%/K)	R_T (Ω)
				2381 641 ⁽¹⁾
				6.333
-40	33.81	5.55	-6.55	1116
-35	24.50	5.02	-6.34	808.6
-30	17.93	4.52	-6.15	591.7
-25	13.25	4.03	-5.96	437.1
-20	9.875	3.56	-5.78	325.9
-15	7.425	3.10	-5.61	245.0
-10	5.630	2.67	-5.45	185.8
-5	4.304	2.24	-5.29	142.0
0	3.315	1.84	-5.14	109.4
5	2.573	1.44	-4.99	84.91
10	2.011	1.07	-4.85	66.37
15	1.583	0.70	-4.72	52.24
20	1.254	0.34	-4.59	41.39
25	1.0000	0.00	-4.46	33.00
30	0.8024	.033	-4.34	26.47
35	0.6474	0.66	-4.23	21.37
40	0.5255	0.98	-4.12	17.34
45	0.4288	1.28	-4.01	14.15
50	0.3518	1.59	-3.91	11.61
55	0.2901	1.88	-3.81	9.572
60	0.2403	2.17	-3.71	7.931
65	0.2001	2.45	-3.62	6.603
70	0.1674	2.72	-3.53	5.522
75	0.1406	2.99	-3.44	4.639
80	0.1186	3.25	-3.36	3.913
85	0.1004	3.51	-3.28	3.315
90	0.08542	3.76	-3.20	2.819
95	0.07292	4.00	-3.13	2.406
100	0.06248	4.24	-3.06	2.062
105	0.05372	4.47	-2.98	1.773
110	0.04635	4.70	-2.92	1.530
115	0.04013	4.93	-2.85	1.324
120	0.03485	5.15	-2.79	1.150
125	0.03037	5.36	-2.73	1.002

Note

1. Replace dot in the code numbers by one of the following, depending on required R_{25} -value:

- 4 for a tolerance of $\pm 2\%$
- 6 for a tolerance of $\pm 3\%$
- 3 for a tolerance of $\pm 5\%$
- 2 for a tolerance of $\pm 10\%$



Notice

Specifications of the products displayed herein are subject to change without notice. Vishay Intertechnology, Inc., or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Vishay's terms and conditions of sale for such products, Vishay assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of Vishay products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Vishay for any damages resulting from such improper use or sale.

单击下面可查看定价，库存，交付和生命周期等信息

[>>Vishay\(威世\)](#)