



45000 GLASS NTC THERMISTORS

GENERAL DESCRIPTION

TE Connectivity offers a comprehensive range of Glass NTC Disc thermistors. This rugged construction is ideally suited for applications which cover the temperature range from -80°C to +250 °C with leads that are suitable for welding or soldering. The glass package hermetically seals to the gold-plated Dumet leads which protects the thermistor chip from extreme environmental conditions where high humidity is present and long-term performance is required.

FEATURES

- Glass hermetic seal
- 2252 to 30K Ohm resistance @ +25°C
- Interchangeability
- Excellent high temperature performance
- Superior long-term stability
- High sensitivity

APPLICATIONS

- High Moisture Applications
- Low to mid-range temperature applications
- Tight tolerance instrumentation
- Use up to +250°C
- Applications requiring excellent stability
- Applications requiring sensing small changes in temperature
- Non-condensing moisture environments
- Allows use in applications world-wide

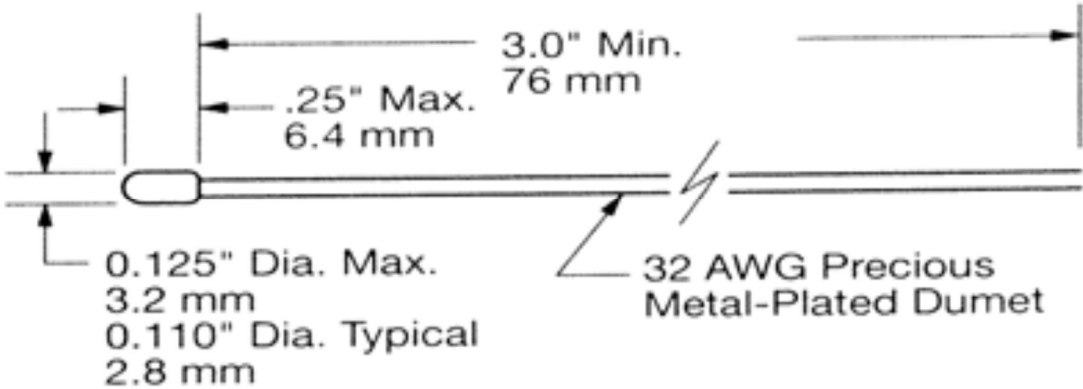
SPECIFICATION

- Hermetically sealed elements, glass encapsulation
- Interchangeable $\pm 0.2^{\circ}\text{C}$, 0°C to $+70^{\circ}\text{C}$
- Pressed Disk Ceramic Sensor
- RoHS compliant
- Time response in stirred oil bath: < 2.5 Seconds
- Dissipation Constant in stirred oil bath: 10 mW/°C or 4 mW/°C in still air
- Insulation Resistance (Min. of 100Mohms for 1 Sec.): 500V
- Maximum Power: 50 mW at +25°C derated to 2 mW at +125°C

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PRODUCT OVERVIEW

45000 GLASS NTC Thermistor



TE Part Number	Legacy Part Number	Resistance [Ω] @ +25°C	Resistance tolerance	Beta Value 0/50(K)	Ratio Ohm 25/125 °C	Operating Temperature
11028331-00	45004	2252	±0.2°C from 0°C to 70°C	3891	29.26	-80° to+200°C
11031943-00	45005	3000				-80° to+250°C
11029031-00	45007	5000				
11031220-00	45017	6000				
11031945-00	45016	10000				
11031944-00	45006	10000		3574	23.51	
11026874-00	45008	30000		3810	29.15	-40° to +250°C

Reliability Data

Reliability Tests	Test Condition	Delta R
Storage in dry heat	Storage temperature: +150°C Duration: 5000 hours	< 0.04°C
Differential dew point cycling	Cycled between ambient (11 minutes) and below dew point (11 minutes) Number of cycles: 3500	< 0.03°C
High temperature cycling	Lower test temperature: Ambient Upper Test Temperature: +200°C Number of Cycles 700	< 0.2°C

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RESISTANCE V TEMPERATURE CHARACTERISTICS

Beta value 0/50 (K)	3891					3574	3810
Nominal resistance at +25°C	2252	3000	5000	6000	5000	10000	30000
Temp(°C)							
-80	1,660,000	2,211,000	3,685,000	4,423,000	7,371,000	3,558,000	
-75	1,071,000	1,426,000	2,378,000	2,853,000	4,756,000	2,440,000	
-70	702,300	935,400	1,560,000	1,871,000	3,119,000	1,694,000	
-65	467,900	623,300	1,039,000	1,247,000	2,078,000	1,190,000	
-60	316,500	421,500	702,900	843,300	1,405,000	845,900	
-55	217,100	289,200	482,200	578,400	964,000	607,800	
-50	151,000	201,100	335,300	402,300	670,500	441,300	
-45	106,300	141,600	236,200	283,200	472,000	323,700	
-40	75,790	101,000	168,300	201,900	336,500	239,800	884,600
-35	54,660	72,810	121,400	145,600	242,700	179,200	649,300
-30	39,860	53,100	88,530	106,200	177,000	135,200	481,000
-25	29,380	39,130	65,240	78,280	130,500	102,900	359,600
-20	21,870	29,130	48,560	58,270	97,110	78,910	271,200
-15	16,430	21,890	36,490	43,770	72,960	61,020	206,200
-10	12,460	16,600	27,670	33,200	55,330	47,540	158,000
-5	9534	12,700	21,170	25,400	42,340	37,310	122,100
0	7355	9796	16,330	19,600	32,660	29,490	94,980
5	5719	7618	12,700	15,240	25,400	23,460	74,440
10	4482	5971	9951	11,940	19,900	18,790	58,750
15	3539	4714	7857	9429	15,710	15,130	46,670
20	2814	3748	6247	7497	12,500	12,260	37,300
25	2252	3000	5000	6000	10,000	10,000	30,000
30	1815	2417	4029	4836	8060	8194	24,270
35	1471	1959	3266	3919	6532	6752	19,740
40	1200	1598	2663	3197	5329	5592	16,150
45	983.8	1310	2184	2621	4369	4655	13,280
50	811.3	1081	1801	2162	3603	3893	10,970
55	672.5	895.8	1493	1792	2986	3270	9109
60	560.3	746.3	1244	1493	2488	2760	7599
65	469.0	624.7	1041	1250	2083	2339	6367
70	394.5	525.4	875.7	1051	1752	1990	5359
75	333.1	444.0	740.0	887.5	1479	1700	4529
80	282.7	376.9	628.1	753.2	1255	1458	3843
85	240.9	321.2	535.4	641.8	1070	1255	3273
90	206.1	274.9	458.2	549.1	915.2	1084	2799
95	177.1	236.2	393.7	471.8	786.4	939.3	2402
100	152.8	203.8	339.6	407.1	678.5	816.8	2069
105	132.3	176.4	294.0	352.5	587.5	712.6	1788
110	115.0	153.2	255.4	306.4	510.7	623.5	1550
115	100.2	133.6	222.6	267.0	444.9	547.3	1348
120	87.7	116.8	194.7	233.7	389.4	481.8	1176
125	77.0	102.5	170.8	205.2	341.9	425.3	1029
130	67.8	90.2	150.3	180.6	301.1	376.4	903.0

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135	59.8	79.6	132.6	159.3	265.5	334.0	794.6
140	53.0	70.4	117.4	141.2	235.3	297.2	701.2
145	47.0	62.5	104.2	125.2	208.7	265.1	620.3
150	41.8	55.6	92.7	111.5	185.9	237.0	550.2
155	37.3	49.7	82.9	99.4	165.7	212.2	489.3
160	33.4	44.5	74.2	89.0	148.3	190.5	436.1
165	29.9	39.9	66.4	79.7	132.8	171.4	389.5
170	26.9	35.8	59.7	71.7	119.4	154.5	348.6
175	24.2	32.2	53.8	64.5	107.5	139.6	312.7
180	21.9	29.1	48.6	58.2	97.1	126.3	281.0
185	19.8	26.3	43.8	52.7	87.8	114.6	253.0
190	17.9	23.8	39.7	47.7	79.5	104.1	228.2
195	16.3	21.7	36.1	43.4	72.3	94.8	206.2
200	14.9	19.8	32.9	39.6	65.9	86.5	186.7
205	13.5	18.1	30.0	36.0	60.1	79.0	169.3
210	12.4	16.5	27.5	33.0	55.0	72.3	153.8
215	11.3	15.1	25.1	30.2	50.3	66.2	139.9
220	10.4	13.9	23.1	27.7	46.2	60.8	127.5
225	9.6	12.8	21.3	25.5	42.5	55.9	116.3
230	8.8	11.7	19.5	23.4	39.1	51.5	106.4
235	8.1	10.8	18.0	21.6	36.0	47.4	97.3
240	7.5	10.0	16.6	20.0	33.3	43.8	89.2
245	6.9	9.2	15.3	18.5	30.8	40.5	81.9
250	6.4	8.5	14.2	17.1	28.5	37.5	75.3

Ordering Information

TE Part Number	Legacy Part Number	Resistance [Ω] @ +25°C	Beta Value 0/50(K)	MOQ (pcs)
11028331-00	45004	2252	3891	100
11031943-00	45005	3000		
11029031-00	45007	5000		
11031220-00	45017	6000		
11031945-00	45016	10000		
11031944-00	45006	10000	3574	100
11026874-00	45008	30000	3810	

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