



44007

OMEGA® PRECISION THERMISTOR ELEMENT RESISTANCE 5000 OHMS @ 25°C



OMEGA® thermistors provide highly accurate and stable temperature sensing for applications of temperature measurement, control, indication, and compensation.

The thermistor is a temperature-sensitive resistor. It is manufactured from special formulations of powdered metal oxides compressed into a small disc that is sintered, coated with silver, and then epoxy encapsulated.

Most thermistors have a negative temperature coefficient; that is, their resistance decreases with increasing temperature. A slight temperature change causes a rapid and pronounced change in electrical resistance. Accurate measurement of the resistance gives a direct reading of the precise temperature of the thermistor.

Interchangeability Range: $\pm 0.2^{\circ}\text{C}$ from 0° to 75°C (32° to 167°F). See Tolerance Curves.

Max. Operating Temp: 150°C (300°F).

Storage and Working Temp:
 -80° to $+120^{\circ}\text{C}$ (-112° to $+250^{\circ}\text{F}$).

Color Code: Black epoxy body, violet end.

Time Constant, Max: 1 sec. in well stirred oil, 10 sec. in still air. Time constant is the time required for a thermistor to indicate 63% of a newly impressed temperature.

Dissipation Constant, Min: $8\text{mW}/^{\circ}\text{C}$ in well stirred oil, $1\text{mW}/^{\circ}\text{C}$ in still air. Dissipation constant is the power in milliwatts to raise a thermistor 1°C above surrounding temperature.



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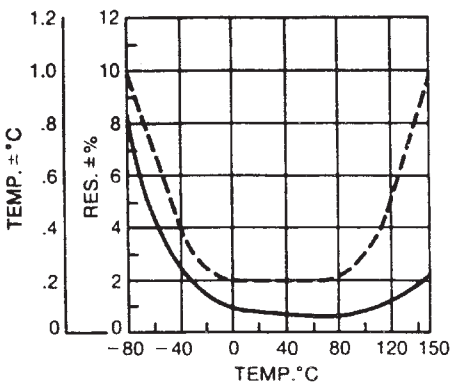
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WARRANTY: OMEGA® warrants only that the parts manufactured by it will be as specified and free of defects upon receipt by purchaser. OMEGA MAKES NO OTHER WARRANTY OR REPRESENTATION OF ANY KIND WHATSOEVER, EXPRESS OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES, INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY DISCLAIMED. THE REMEDIES OF PURCHASER SET FORTH HEREIN SHALL NOT EXCEED THE PURCHASE PRICE OF THE PRODUCT. IN NO EVENT SHALL OMEGA BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL, OR SPECIAL DAMAGES.

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Tolerance Curves: The following curves indicate conformance to standard resistance temperature values as a % of resistance, and as a maximum interchangeability error expressed as temperature.



— RESISTANCE ±%
- - - TEMPERATURE ±°C

WARNING

Use heat sinks when soldering or welding to thermistor leads.

RESISTANCE VERSUS TEMPERATURE —80° to +150°C

TEMP °C RES	TEMP °C RES	TEMP °C RES	TEMP °C RES	TEMP °C RES	TEMP °C RES	TEMP °C RES	TEMP °C RES	TEMP °C RES	TEMP °C RES
—80 3684K	—50 335.3K	—20 48.56K	+ 10 9951	+ 40 2663	+ 70 875.7	+ 100 339.6	+ 130 150.3		
79 3371K	49 312.3K	19 45.83K	11 9486	41 2559	72 846.4	101 329.8	131 146.5		
78 3086K	48 291.0K	18 43.27K	12 9048	42 2459	73 818.3	102 320.4	132 142.9		
77 2827K	47 271.3K	17 40.86K	13 8628	43 2363	73 791.2	103 311.3	133 139.4		
76 2592K	46 253.0K	16 38.61K	14 8232	44 2272	74 765.1	104 302.5	134 136.0		
75 2378K	45 236.2K	15 36.49K	15 7857	45 2184	75 740.0	105 294.0	135 132.6		
74 2182K	44 220.5K	14 34.50K	16 7500	46 2101	76 715.9	106 285.7	136 129.4		
73 2005K	43 205.9K	13 32.83K	17 7162	47 2021	77 692.7	107 277.8	137 126.3		
72 1843K	42 192.5K	12 30.88K	18 6841	48 1944	78 670.3	108 270.1	138 123.2		
71 1695K	41 180.0K	11 28.23K	19 6536	49 1871	79 648.8	109 262.6	139 120.3		
—70 1560K	—40 168.3K	—10 27.87K	+ 20 6247	+ 50 1801	+ 80 628.1	+ 110 255.4	+ 140 117.4		
69 1436K	39 157.5K	9 26.21K	21 5972	51 1734	81 608.2	111 248.4	141 114.6		
68 1323K	38 147.5K	8 24.83K	22 5710	52 1670	82 588.9	112 241.6	142 111.9		
67 1220K	37 138.2K	7 23.54K	23 5462	53 1608	83 570.4	113 235.1	143 109.2		
66 1126K	36 129.5K	6 22.32K	24 5225	54 1549	84 552.6	114 228.7	144 106.7		
65 1039K	35 121.4K	5 21.17K	25 5000	55 1493	85 535.4	115 222.6	145 104.2		
64 959.9K	34 113.9K	4 20.08K	26 4787	56 1439	86 518.8	116 216.7	146 101.8		
63 887.2K	33 106.9K	3 19.06K	27 4583	57 1387	87 502.8	117 210.9	147 99.40		
62 820.5K	32 100.3K	2 18.10K	28 4389	58 1337	88 487.4	118 205.3	148 97.10		
61 759.2K	31 94.22K	1 17.19K	29 4204	59 1290	89 472.6	119 199.9	149 94.87		
—60 702.9K	—30 88.53K	0 16.33K	+ 30 4029	+ 60 1244	+ 90 458.2	+ 120 194.7	+ 150 92.70		
59 651.1K	29 83.22K	1 15.52K	31 3861	61 1200	91 444.4	121 189.6			
58 603.5K	28 78.28K	2 14.75K	32 3702	62 1158	92 431.0	122 184.7			
57 559.7K	27 73.62K	3 14.03K	33 3549	63 1117	93 418.2	123 179.9			
56 519.4K	26 69.29K	4 13.34K	34 3404	64 1079	94 405.7	124 175.3			
55 482.2K	25 65.24K	5 12.70K	35 3266	65 1041	95 393.7	125 170.8			
54 447.9K	24 61.45K	6 12.09K	36 3134	66 1006	96 382.1	126 166.4			
53 416.3K	23 57.90K	7 11.51K	37 3008	67 971.1	97 370.9	127 162.2			
52 387.1K	22 54.58K	8 10.96K	38 2888	68 938.0	98 360.1	128 158.1			
51 360.2K	21 51.47K	9 10.44K	39 2773	69 906.3	99 349.7	129 154.1			