



# MATERIAL TYPE: GE5.5

AVAILABLE PRODUCTS: GE, MELF

Data for material type : GE5.5

Temp Range (°C)	Ratio	Beta
0 to 50	5.37	2967
0 to 70	9.19	2971
25 to 50	2.17	2979
25 to 85	5.34	2983
25 to 100	7.49	2986
25 to 125	12.35	2984
37.8 to 104.4	5.46	2989

To calculate Rt/R25 at temperatures other than those listed in the table, use the following equation:

$$Rt/R25 = \exp\{A + B/T + C/T^2 + D/T^3\}$$

where T = temperature in K

where K = °C + 273.15

Temp Range (°C)	A	B	C	D
-50 to 0	-1.1222542 x 10 <sup>01</sup>	3.7896291 x 10 <sup>03</sup>	-1.6267252 x 10 <sup>05</sup>	8.9034766 x 10 <sup>06</sup>
0 to 50	-1.0682861 x 10 <sup>01</sup>	3.4873093 x 10 <sup>03</sup>	-1.1567816 x 10 <sup>05</sup>	7.6246263 x 10 <sup>06</sup>
50 to 100	-1.0539673 x 10 <sup>01</sup>	3.4190765 x 10 <sup>03</sup>	-1.1160480 x 10 <sup>05</sup>	8.6016776 x 10 <sup>06</sup>
100 to 150	-1.0081978 x 10 <sup>01</sup>	3.0613742 x 10 <sup>03</sup>	-2.4629546 x 10 <sup>04</sup>	2.1728332 x 10 <sup>06</sup>
150 to 200	-1.0081978 x 10 <sup>01</sup>	3.0613742 x 10 <sup>03</sup>	-2.4629546 x 10 <sup>04</sup>	2.1728332 x 10 <sup>06</sup>
200 to 250	-1.0081978 x 10 <sup>01</sup>	3.0613742 x 10 <sup>03</sup>	-2.4629546 x 10 <sup>04</sup>	2.1728332 x 10 <sup>06</sup>

To calculate the actual thermistor temperature as a function of the thermistor resistance, use the following equation:

$$1/T = a + b(\ln Rt/R25) + c(\ln Rt/R25)^2 + d(\ln Rt/R25)^3$$

Rt/R25 range	a	b	c	d
26.96 to 2.479	3.3560946 x 10 <sup>-03</sup>	3.3338591 x 10 <sup>-04</sup>	2.7947541 x 10 <sup>-06</sup>	-9.5822613 x 10 <sup>-08</sup>
2.479 to 0.4616	3.3540165 x 10 <sup>-03</sup>	3.3685300 x 10 <sup>-04</sup>	1.4876179 x 10 <sup>-06</sup>	-8.5351720 x 10 <sup>-08</sup>
0.4616 to 0.13360	3.3550285 x 10 <sup>-03</sup>	3.3778114 x 10 <sup>-04</sup>	9.8662130 x 10 <sup>-07</sup>	-9.6022703 x 10 <sup>-08</sup>
0.13360 to 0.05202	3.3571072 x 10 <sup>-03</sup>	3.3676684 x 10 <sup>-04</sup>	1.0858728 x 10 <sup>-07</sup>	-2.7023120 x 10 <sup>-08</sup>
0.05202 to 0.02469	3.3571192 x 10 <sup>-03</sup>	3.3677902 x 10 <sup>-04</sup>	1.1271804 x 10 <sup>-07</sup>	-2.6554538 x 10 <sup>-08</sup>
0.02469 to 0.013501	3.3571411 x 10 <sup>-03</sup>	3.3679682 x 10 <sup>-04</sup>	1.1754009 x 10 <sup>-07</sup>	-2.6118522 x 10 <sup>-08</sup>

†The deviation resulting from the tolerance on the material constant, Beta. The deviation must be added to the resistance tolerance of the part as specified at 25°C.

Temperature (°C)	Rt/R25 nominal	Temp Coef (%/°C)	β Deviation† (±%)
-50	26.960000	5.76	9.0884113
-45	20.330000	5.53	8.3705682
-40	15.510000	5.31	7.667348
-35	11.960000	5.10	6.9784088
-30	9.308000	4.91	6.3034055
-25	7.315000	4.73	5.6419919
-20	5.800000	4.56	4.9938233
-15	4.636000	4.40	4.3585578
-10	3.736000	4.25	3.7358579
5	3.032000	4.10	3.1253911
0	2.479000	3.95	2.5268315
5	2.042000	3.82	2.0180686
10	1.693000	3.69	1.5105609
15	1.412000	3.57	1.0047782
20	1.185000	3.45	0.5011357
25	1.000000	3.34	0
30	0.848400	3.24	0.498306
35	0.723500	3.14	0.9934986
40	0.620000	3.04	1.4853295
45	0.533800	2.95	1.9735818
50	0.461600	2.85	2.4580673
55	0.401100	2.77	2.8530379
60	0.350000	2.69	3.2371737
65	0.306600	2.61	3.6109631
70	0.269600	2.54	3.9748649
75	0.237900	2.47	4.3293099
80	0.210600	2.40	4.6747037
85	0.187100	2.34	5.0114283
90	0.166700	2.28	5.3398437
95	0.149000	2.22	5.6602895
100	0.133600	2.14	5.9730866
105	0.120200	2.08	6.2733438
110	0.108500	2.03	6.576806
115	0.098150	1.98	6.883088
120	0.089030	1.93	7.1918309
125	0.080950	1.88	7.5027004
130	0.073780	1.83	7.8153851
135	0.067390	1.79	8.1295951
140	0.061690	1.75	8.4450606
145	0.056590	1.70	8.7615301
150	0.052020	1.67	9.0787699
155	0.047910	1.63	9.3965624
160	0.044210	1.59	9.7147051
165	0.040870	1.55	10.03301
170	0.037850	1.52	10.351302
175	0.035110	1.49	10.669418
180	0.032620	1.45	10.987208
185	0.030360	1.42	11.304531
190	0.028300	1.39	11.621258
195	0.026410	1.36	11.937268
200	0.024690	1.33	12.252448
205	0.023110	1.31	12.566697
210	0.021670	1.28	12.879917
215	0.020340	1.25	13.192022
220	0.019110	1.23	13.502928
225	0.017990	1.20	13.812562
230	0.016940	1.18	14.120853
235	0.015980	1.16	14.427738
240	0.015090	1.14	14.733158
245	0.014270	1.11	15.037061
250	0.013500	1.09	15.339396

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