



MATERIAL TYPE: GE16.4

AVAILABLE PRODUCTS: GE, MELF

Data for material type : GE16.4

Temp Range (°C)	Ratio	Beta
0 to 50	14.06	4667
0 to 70	33.91	4718
25 to 50	3.44	4767
25 to 85	15.24	4848
25 to 100	26.89	4883
25 to 125	63.89	4935
37.8 to 104.4	16.48	4935

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	-2.4386916 X 10 ⁰¹	1.0406520 X 10 ⁰⁴	-1.1481187 X 10 ⁰⁶	6.2839425 X 10 ⁰⁷
0 to 50	-2.1812140 X 10 ⁰¹	9.0535061 X 10 ⁰³	-9.7614333 X 10 ⁰⁵	6.4339962 X 10 ⁰⁷
50 to 100	-2.1050040 X 10 ⁰¹	8.6953421 X 10 ⁰³	-9.7293169 X 10 ⁰⁵	7.4986423 X 10 ⁰⁷
100 to 150	-1.9072207 X 10 ⁰¹	6.9972595 X 10 ⁰³	-5.3864319 X 10 ⁰⁵	4.6610439 X 10 ⁰⁷
150 to 200	-1.8593291 X 10 ⁰¹	6.5348743 X 10 ⁰³	-4.1635011 X 10 ⁰⁵	4.1368691 X 10 ⁰⁷
200 to 250	-2.0048246 X 10 ⁰¹	8.2277925 X 10 ⁰³	-1.0492243 X 10 ⁰⁶	1.1593337 X 10 ⁰⁸

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
127.27 to 4.082	3.3602873 X 10 ⁻⁰³	2.0677678 X 10 ⁻⁰⁴	4.9515026 X 10 ⁻⁰⁶	2.2791080 X 10 ⁻⁰⁸
4.082 to 0.2903	3.3540186 X 10 ⁻⁰³	2.1381885 X 10 ⁻⁰⁴	3.2012840 X 10 ⁻⁰⁶	-3.9653050 X 10 ⁻⁰⁸
0.2903 to 0.03719	3.3544364 X 10 ⁻⁰³	2.1305480 X 10 ⁻⁰⁴	2.2929765 X 10 ⁻⁰⁶	-5.3751262 X 10 ⁻⁰⁸
0.03719 to 0.00723	3.3351939 X 10 ⁻⁰³	2.0213147 X 10 ⁻⁰⁴	7.7506608 X 10 ⁻⁰⁷	-4.6268376 X 10 ⁻⁰⁸
0.00723 to 0.00193	3.3157243 X 10 ⁻⁰³	1.9530994 X 10 ⁻⁰⁴	2.0673313 X 10 ⁻⁰⁷	-4.3377130 X 10 ⁻⁰⁸
0.001928 to 0.000646	3.3433966 X 10 ⁻⁰³	2.0324077 X 10 ⁻⁰⁴	5.2478382 X 10 ⁻⁰⁷	-8.2170187 X 10 ⁻⁰⁸

†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	127.270000	7.84	9.6441383
-45	86.500000	7.62	9.9145615
-40	59.420000	7.41	9.9314261
-35	41.240000	7.21	9.7157018
-30	28.894000	7.02	9.2873103
-25	20.430000	6.85	8.6650932
-20	14.571000	6.68	7.8668014
-15	10.479000	6.52	6.9091003
-10	7.596000	6.36	5.8075887
5	5.548000	6.21	4.5768266
0	4.082000	6.02	3.2303709
5	3.033000	5.86	2.3137682
10	2.273000	5.70	1.5430296
15	1.716000	5.55	0.9069824
20	1.305000	5.40	0.3956291
25	1.000000	5.26	0
30	0.771300	5.13	0.2879724
35	0.598700	5.00	0.4755616
40	0.467600	4.88	0.5693405
45	0.367400	4.77	0.5752617
50	0.290300	4.62	0.4987275
55	0.231100	4.51	0.9209438
60	0.184900	4.40	1.3941169
65	0.148800	4.29	1.9145425
70	0.120400	4.19	2.4787316
75	0.097900	4.09	3.0833998
80	0.079900	4.00	3.7254559
85	0.065600	3.91	4.4019927
90	0.054100	3.82	5.1102763
95	0.044700	3.74	5.8477368
100	0.037200	3.67	6.6119598
105	0.031000	3.59	7.0558347
110	0.026000	3.50	7.4688512
115	0.021860	3.42	7.8526202
120	0.018460	3.34	8.2086465
125	0.015650	3.26	8.5383377
130	0.013320	3.19	8.843011
135	0.011380	3.12	9.1239009
140	0.009750	3.05	9.3821651
145	0.008380	2.99	9.6188907
150	0.007230	2.94	9.835099
155	0.006250	2.87	10.003858
160	0.005430	2.81	10.153005
165	0.004720	2.75	10.283437
170	0.004120	2.69	10.396002
175	0.003610	2.64	10.491498
180	0.003170	2.58	10.570678
185	0.002790	2.53	10.634254
190	0.002460	2.48	10.682899
195	0.002170	2.43	10.717248
200	0.001930	2.39	10.737905
205	0.001710	2.34	10.743156
210	0.001530	2.30	10.73414
215	0.001360	2.26	10.711438
220	0.001220	2.22	10.675601
225	0.001090	2.18	10.627152
230	0.000980	2.15	10.566587
235	0.000880	2.11	10.494378
240	0.000790	2.07	10.410973
245	0.000710	2.04	10.316799
250	0.000650	2.01	10.212261

Crown Industrial Estate, Priorswood Road
Taunton, Somerset TA2 8QY UK
Tel +44 (0) 1823 335200
Fax +44 (0) 1823 332637

808 US Highway 1
Edison, New Jersey 08817-4695 USA
Tel +1 (732) 287 2870
Fax +1 (732) 287 8847

967 Windfall Road
St. Marys, Pennsylvania 15857-3397 USA
Tel +1 (814) 834 9140
Fax +1 (814) 781 7969