



MATERIAL TYPE: GE12.3

AVAILABLE PRODUCTS: GE, MELF

Data for material type : GE12.3

Temp Range (°C)	Ratio	Beta
0 to 50	10.63	4173
0 to 70	23.48	4226
25 to 50	3.06	4313
25 to 85	11.62	4365
25 to 100	19.19	4383
25 to 125	40.90	4405
37.8 to 104.4	12.30	4420

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	$-2.3739284 \times 10^{01}$	1.0063902×10^{04}	$-1.1065847 \times 10^{06}$	6.0566166×10^{07}
0 to 50	$-2.2576405 \times 10^{01}$	1.0282417×10^{04}	$-1.3593124 \times 10^{06}$	8.9595561×10^{07}
50 to 100	$-1.6859105 \times 10^{01}$	6.1315790×10^{03}	$-4.4353065 \times 10^{05}$	3.4184083×10^{07}
100 to 150	$-1.6624902 \times 10^{01}$	6.0107472×10^{03}	$-4.4454280 \times 10^{05}$	3.9217830×10^{07}
150 to 200	$-1.5823950 \times 10^{01}$	5.1963248×10^{03}	$-1.9588550 \times 10^{05}$	1.9562611×10^{07}
200 to 250	$-1.5893384 \times 10^{01}$	5.2947394×10^{03}	$-2.4340232 \times 10^{05}$	2.6894584×10^{07}

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
98.31 to 3.473	$3.3861050 \times 10^{-03}$	$2.1425199 \times 10^{-04}$	$5.2248202 \times 10^{-06}$	$2.2636474 \times 10^{-08}$
3.473 to 0.3266	$3.3540201 \times 10^{-03}$	$2.3878984 \times 10^{-04}$	$6.2072674 \times 10^{-06}$	$2.9066504 \times 10^{-08}$
0.3266 to 0.05210	$3.3525200 \times 10^{-03}$	$2.3208887 \times 10^{-04}$	$1.3137869 \times 10^{-06}$	$-6.3186219 \times 10^{-08}$
0.05210 to 0.01246	$3.3512772 \times 10^{-03}$	$2.3028970 \times 10^{-04}$	$8.2489729 \times 10^{-07}$	$-7.0736668 \times 10^{-08}$
0.01246 to 0.00394	$3.3261506 \times 10^{-03}$	$2.2071239 \times 10^{-04}$	$8.5864116 \times 10^{-08}$	$3.9190616 \times 10^{-08}$
0.003941 to 0.001543	$3.3240172 \times 10^{-03}$	$2.1955719 \times 10^{-04}$	$-1.2291957 \times 10^{-07}$	$-5.1785129 \times 10^{-08}$

†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	98.308887	7.62	3.1042197
-45	67.530000	7.41	2.96487544
-40	46.870000	7.20	2.7798287
-35	32.860000	7.01	2.5987971
-30	23.260000	6.83	2.4068865
-25	16.600000	6.65	2.2052092
-20	11.960000	6.49	1.9947745
-15	8.679000	6.33	1.7764997
-10	6.349000	6.18	1.5512182
5	4.679000	6.03	1.3196888
0	3.473000	5.27	1.0826023
5	2.677000	5.15	0.8636029
10	2.075000	5.03	0.645768
15	1.618000	4.92	0.4291778
20	1.269000	4.81	0.2139018
25	1.000000	4.71	0
30	0.792000	4.61	0.212476
35	0.630400	4.52	0.4234823
40	0.504100	4.43	0.6329816
45	0.404900	4.34	0.8409428
50	0.326600	4.18	1.0473401
55	0.265700	4.07	1.2063993
60	0.217400	3.96	1.3691813
65	0.178900	3.85	1.5353617
70	0.147900	3.75	1.7046393
75	0.122900	3.66	1.876734
80	0.102600	3.56	2.0513859
85	0.086100	3.47	2.2283532
90	0.072500	3.39	2.4074109
95	0.061300	3.31	2.5883498
100	0.052100	3.21	2.7709752
105	0.044460	3.14	2.9436754
110	0.038080	3.06	3.1125927
115	0.032740	2.99	3.2778669
120	0.028240	2.92	3.4396304
125	0.024450	2.85	3.5980094
130	0.021240	2.79	3.7531238
135	0.018500	2.72	3.9050874
140	0.016170	2.66	4.0540088
145	0.014170	2.61	4.1999916
150	0.012460	2.57	4.3431342
155	0.010980	2.51	4.4835307
160	0.009700	2.45	4.6212709
165	0.008590	2.40	4.7564406
170	0.007630	2.35	4.8891216
175	0.006790	2.30	5.0193923
180	0.006060	2.25	5.1473276
185	0.005430	2.20	5.2729993
190	0.004870	2.15	5.396476
195	0.004370	2.11	5.5178236
200	0.003940	2.07	5.6371051
205	0.003560	2.03	5.7543811
210	0.003220	1.98	5.8697096
215	0.002920	1.95	5.9831463
220	0.002650	1.91	6.0947449
225	0.002411	1.87	6.2045566
230	0.002197	1.84	6.3126311
235	0.002006	1.80	6.4190158
240	0.001835	1.77	6.5237564
245	0.001681	1.73	6.6268971
250	0.001543	1.70	6.7284801

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