



# MATERIAL TYPE: C6.1

## AVAILABLE PRODUCTS: CL

Data for material type : C6.1

Temp Range (°C)	Ratio	Beta
0 to 50	6.00	3164
0 to 70	10.67	3170
25 to 50	2.28	3177
25 to 85	5.97	3181
25 to 100	8.53	3179
25 to 125	14.75	3195
37.8 to 104.4	6.11	3187

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

Temp Range (°C)	A	B	C	D
-50 to 0	-1.2426402 x 10 <sup>01</sup>	4.3686037 x 10 <sup>03</sup>	-2.4250323 x 10 <sup>05</sup>	1.3272812 x 10 <sup>07</sup>
0 to 50	-1.1385102 x 10 <sup>01</sup>	3.7143153 x 10 <sup>03</sup>	-1.2242751 x 10 <sup>05</sup>	8.0694927 x 10 <sup>06</sup>
50 to 100	-1.0226160 x 10 <sup>01</sup>	2.8115674 x 10 <sup>03</sup>	9.6183337 x 10 <sup>04</sup>	-7.4131047 x 10 <sup>06</sup>
100 to 150	-1.0233658 x 10 <sup>01</sup>	2.6605576 x 10 <sup>03</sup>	1.7511014 x 10 <sup>05</sup>	-1.5448321 x 10 <sup>07</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
32.30 to 2.633	3.3549949 x 10 <sup>-03</sup>	3.1331987 x 10 <sup>-04</sup>	3.5017065 x 10 <sup>-06</sup>	-1.0269821 x 10 <sup>-07</sup>
2.633 to 0.4386	3.3540165 x 10 <sup>-03</sup>	3.1591599 x 10 <sup>-04</sup>	1.2987588 x 10 <sup>-06</sup>	-6.9999138 x 10 <sup>-08</sup>
0.4386 to .11726	3.3520914 x 10 <sup>-03</sup>	3.1187933 x 10 <sup>-04</sup>	-6.4238893 x 10 <sup>-07</sup>	7.8778278 x 10 <sup>-08</sup>
0.11726 to 0.0419	3.3309732 x 10 <sup>-03</sup>	3.0209438 x 10 <sup>-04</sup>	-4.4163124 x 10 <sup>-07</sup>	1.5768905 x 10 <sup>-07</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	32.300000	6.02	9.0884113
-45	24.060000	5.78	8.3705682
-40	18.120000	5.56	7.667348
-35	13.800000	5.35	6.9784088
-30	10.610000	5.16	6.3034055
-25	8.238000	4.97	5.6419919
-20	6.454000	4.80	4.9938233
-15	5.098000	4.63	4.358578
-10	4.060000	4.48	3.7358579
-5	3.258000	4.33	3.1253911
0	2.633000	4.21	2.5268315
5	2.141000	4.07	2.0180686
10	1.753000	3.93	1.56105609
15	1.445000	3.80	1.0047782
20	1.198000	3.68	0.5011357
25	1.000000	3.56	0
30	0.839300	3.45	0.498306
35	0.708200	3.34	0.9934986
40	0.600700	3.24	1.4853295
45	0.512100	3.15	1.9735818
50	0.438600	3.06	2.45806783
55	0.377300	2.96	2.8530379
60	0.326100	2.87	3.2371737
65	0.283000	2.79	3.6109631
70	0.246700	2.70	3.9748649
75	0.216000	2.62	4.3293099
80	0.189800	2.55	4.6747037
85	0.167400	2.48	5.0114283
90	0.148200	2.41	5.3398437
95	0.131600	2.34	5.6602895
100	0.117300	2.35	5.9730866
105	0.104400	2.28	6.2733438
110	0.093330	2.22	6.576806
115	0.083650	2.16	6.883088
120	0.075190	2.10	7.1918309
125	0.067780	2.05	7.5027004
130	0.061260	2.00	7.8153851
135	0.055510	1.95	8.1295951
140	0.050430	1.90	8.4450606
145	0.045920	1.85	8.7615301
150	0.041920	1.80	9.0787699

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