



MATERIAL TYPE: C8.5

AVAILABLE PRODUCTS: CL, NC

Data for material type : C8.5

Temp Range (°C)	Ratio	Beta
0 to 50	7.95	3660
0 to 70	15.56	3675
25 to 50	2.62	3706
25 to 85	8.11	3726
25 to 100	12.45	3741
25 to 125	23.76	3761
37.8 to 104.4	8.46	3760

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	-1.5844952 x 10 ⁰¹	5.9737509 x 10 ⁰³	-4.5845335 x 10 ⁰⁵	2.5092306 x 10 ⁰⁷
0 to 50	-1.5133216 x 10 ⁰¹	5.6947205 x 10 ⁰³	-4.5272060 x 10 ⁰⁵	2.9839907 x 10 ⁰⁷
50 to 100	-1.5023467 x 10 ⁰¹	5.7816363 x 10 ⁰³	-5.2518671 x 10 ⁰⁵	4.0477531 x 10 ⁰⁷
100 to 150	-1.3339561 x 10 ⁰¹	4.3349151 x 10 ⁰³	-1.4580832 x 10 ⁰⁵	1.2863297 x 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
53.34 to 3.039	3.3594077 x 10 ⁻⁰³	2.6679050 x 10 ⁻⁰⁴	4.1649434 x 10 ⁻⁰⁶	-7.8111089 x 10 ⁻⁰⁸
3.039 to 0.3822	3.3540174 x 10 ⁻⁰³	2.7285893 x 10 ⁻⁰⁴	3.0887913 x 10 ⁻⁰⁶	-9.6534431 x 10 ⁻⁰⁸
0.3822 to 0.08029	3.3575603 x 10 ⁻⁰³	2.7614120 x 10 ⁻⁰⁴	2.6483077 x 10 ⁻⁰⁶	-1.2033859 x 10 ⁻⁰⁷
0.08029 to 0.0237	3.3422529 x 10 ⁻⁰³	2.6385714 x 10 ⁻⁰⁴	3.5357168 x 10 ⁻⁰⁷	-5.3180819 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	53.340000	6.78	9.6147123
-45	38.240000	6.54	8.7568476
-40	27.740000	6.30	7.9365706
-35	20.360000	6.09	7.1513141
-30	15.090000	5.88	6.3987423
-25	11.310000	5.69	5.6767253
-20	8.547000	5.50	4.9833172
-15	6.520000	5.33	4.3167359
-10	5.015000	5.17	3.6753468
-5	3.889000	5.01	3.0576474
0	3.039000	4.80	2.4622542
5	2.400000	4.65	1.8953155
10	1.909000	4.51	1.3682867
15	1.529000	4.37	0.8783822
20	1.233000	4.25	0.4230609
25	1.000000	4.12	0
30	0.816100	4.01	0.3929276
35	0.669800	3.90	0.757673
40	0.552700	3.79	1.0960289
45	0.458500	3.69	1.4096451
50	0.382200	3.54	1.7000423
55	0.321000	3.44	2.06999
60	0.270800	3.35	2.4147364
65	0.229500	3.27	2.735779
70	0.195300	3.19	3.0345037
75	0.166900	3.11	3.3121947
80	0.143100	3.03	3.5700432
85	0.123200	2.96	3.8091561
90	0.106500	2.89	4.0305626
95	0.092310	2.82	4.2352214
100	0.080290	2.75	4.4240259
105	0.070100	2.68	4.4788558
110	0.061410	2.61	4.5551175
115	0.053970	2.55	4.6516365
120	0.047590	2.49	4.7672939
125	0.042090	2.43	4.9010244
130	0.037340	2.37	5.0518135
135	0.033210	2.31	5.2186953
140	0.029630	2.26	5.4007506
145	0.026500	2.21	5.5971045
150	0.023760	2.16	5.8069245

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