



MATERIAL TYPE: C4.6

AVAILABLE PRODUCTS: CL, NC

Data for material type : C4.6

Temp Range (°C)	Ratio	Beta
0 to 50	4.56	2680
0 to 70	7.43	2685
25 to 50	2.01	2685
25 to 85	4.52	2684
25 to 100	6.06	2672
25 to 125	9.42	2662
37.8 to 104.4	4.55	2669

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	-1.1139060 x 10 ⁰¹	4.0662931 x 10 ⁰³	-2.7301690 x 10 ⁰⁵	1.4942902 x 10 ⁰⁷
0 to 50	-9.2729117 x 10 ⁰⁰	2.8818578 x 10 ⁰³	-4.4837217 x 10 ⁰⁵	2.9553291 x 10 ⁰⁶
50 to 100	-6.7972227 x 10 ⁰⁰	8.7308354 x 10 ⁰²	4.6607930 x 10 ⁰⁴	-3.5921967 x 10 ⁰⁷
100 to 150	-6.2311084 x 10 ⁰⁰	1.9859286 x 10 ⁰²	7.1069611 x 10 ⁰⁵	-6.2698034 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
19.01 to 2.274	3.3571156 x 10 ⁻⁰³	3.6481614 x 10 ⁻⁰⁴	6.2877897 x 10 ⁻⁰⁶	-1.8914059 x 10 ⁻⁰⁷
2.274 to 0.4982	3.3540164 x 10 ⁻⁰³	3.7301944 x 10 ⁻⁰⁴	7.8358971 x 10 ⁻⁰⁷	-5.4219833 x 10 ⁻⁰⁸
0.4982 to 0.16504	3.3474163 x 10 ⁻⁰³	3.5955951 x 10 ⁻⁰⁴	-4.1498486 x 10 ⁻⁰⁶	1.0774394 x 10 ⁻⁰⁶
0.16504 to 0.07279	3.3371095 x 10 ⁻⁰³	3.6095064 x 10 ⁻⁰⁴	2.1583585 x 10 ⁻⁰⁶	2.3876243 x 10 ⁻⁰⁶

†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	19.010000	5.06	10.141194
-45	14.840000	4.87	9.2739508
-40	11.680000	4.69	8.4390717
-35	9.281000	4.52	7.6349492
-30	7.433000	4.36	6.8600744
-25	5.999000	4.21	6.11303
-20	4.877000	4.07	5.3924841
-15	3.992000	3.94	4.6971839
-10	3.290000	3.81	4.0259507
-5	2.727000	3.69	3.377674
0	2.274000	3.58	2.7513076
5	1.907000	3.46	2.2401127
10	1.609000	3.34	1.7081672
15	1.366000	3.23	1.1567408
20	1.166000	3.12	0.5869961
25	1.000000	3.02	0
30	0.862100	2.92	0.6032668
35	0.746800	2.83	1.2219013
40	0.649800	2.74	1.8550705
45	0.567800	2.66	2.5020049
50	0.498200	2.61	3.1619925
55	0.438300	2.52	3.5885937
60	0.387200	2.43	4.035608
65	0.343600	2.35	4.5550269
70	0.306100	2.27	5.0912796
75	0.273800	2.20	5.660746
80	0.245800	2.12	6.26919791
85	0.221400	2.06	6.8936455
90	0.200100	1.99	7.5545146
95	0.181400	1.93	8.2434492
100	0.165000	1.91	8.959397
105	0.150300	1.85	9.7898237
110	0.137200	1.79	10.59646
115	0.125600	1.73	11.379969
120	0.115400	1.68	12.140995
125	0.106200	1.63	12.880166
130	0.098010	1.58	13.598091
135	0.090680	1.53	14.295365
140	0.084090	1.49	14.972564
145	0.078150	1.44	15.630246
150	0.072790	1.40	16.268958

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