



# MATERIAL TYPE: C6.5

## AVAILABLE PRODUCTS: CL

Data for material type : C6.5

Temp Range (°C)	Ratio	Beta
0 to 50	6.38	3271
0 to 70	11.58	3280
25 to 50	2.35	3285
25 to 85	6.38	3298
25 to 100	9.26	3301
25 to 125	16.21	3306
37.8 to 104.4	6.54	3307

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	-1.2846321 x 10 <sup>01</sup>	4.5219278 x 10 <sup>03</sup>	-2.5267596 x 10 <sup>05</sup>	1.3829591 x 10 <sup>07</sup>
0 to 50	-1.1850279 x 10 <sup>01</sup>	3.8971126 x 10 <sup>03</sup>	1.3930940 x 10 <sup>05</sup>	9.1822189 x 10 <sup>06</sup>
50 to 100	-1.1272533 x 10 <sup>01</sup>	3.4566795 x 10 <sup>03</sup>	-3.7952197 x 10 <sup>04</sup>	2.9250764 x 10 <sup>06</sup>
100 to 150	-1.3153362 x 10 <sup>01</sup>	5.2047014 x 10 <sup>03</sup>	-5.5069543 x 10 <sup>05</sup>	4.8582678 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
36.16 to 2.719	3.3542099 x 10 <sup>-03</sup>	3.0342926 x 10 <sup>-04</sup>	3.3155033 x 10 <sup>-06</sup>	-9.3850502 x 10 <sup>-08</sup>
2.719 to 0.4264	3.3540166 x 10 <sup>-03</sup>	3.0557639 x 10 <sup>-04</sup>	1.3372867 x 10 <sup>-06</sup>	-6.8649613 x 10 <sup>-08</sup>
0.4264 to 0.10804	3.3526048 x 10 <sup>-03</sup>	3.0295574 x 10 <sup>-04</sup>	2.3929874 x 10 <sup>-07</sup>	-2.3459389 x 10 <sup>-08</sup>
0.10804 to 0.0373	3.3740451 x 10 <sup>-03</sup>	3.1791733 x 10 <sup>-04</sup>	2.9960867 x 10 <sup>-06</sup>	-2.2413989 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	36.160000	6.21	8.9714446
-45	26.680000	5.97	8.1838273
-40	19.920000	5.74	7.4326042
-35	15.030000	5.52	6.7151983
-30	11.460000	5.32	6.0292721
-25	8.828000	5.13	5.3727002
-20	6.862000	4.95	4.7435456
-15	5.380000	4.78	4.1400398
-10	4.253000	4.62	3.5605644
-5	3.388000	4.47	3.0036356
0	2.719000	4.35	2.4678906
5	2.196000	4.20	1.9382997
10	1.786000	4.06	1.4277518
15	1.463000	3.93	0.9351707
20	1.206000	3.80	0.4595608
25	1.000000	3.68	0
30	0.834300	3.57	0.4443673
35	0.699900	3.46	0.874336
40	0.590400	3.35	1.2906455
45	0.500500	3.25	1.6939847
50	0.426400	3.17	2.0849962
55	0.364800	3.07	2.474984
60	0.313600	2.98	2.8635026
65	0.270800	2.89	3.2503461
70	0.234800	2.81	3.6353305
75	0.204400	2.73	4.0182913
80	0.178700	2.66	4.399082
85	0.156700	2.58	4.7775726
90	0.138000	2.51	5.1536479
95	0.121900	2.45	5.527206
100	0.108000	2.37	5.8981576
105	0.096090	2.32	5.9985988
110	0.085700	2.26	6.1326916
115	0.076630	2.21	6.2984689
120	0.068680	2.17	6.4940366
125	0.061710	2.12	6.7175741
130	0.055570	2.07	6.9673338
135	0.050150	2.03	7.2416397
140	0.045360	1.99	7.5388871
145	0.041110	1.95	7.8575411
150	0.037340	1.91	8.1961346

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