



MATERIAL TYPE: C5.2

AVAILABLE PRODUCTS: UD

Data for material type : C5.2

Temp Range (°C)	Ratio	Beta
0 to 50	5.13	2886
0 to 70	8.69	2896
25 to 50	2.13	2906
25 to 85	5.14	2914
25 to 100	7.13	2913
25 to 125	11.63	2913
37.8 to 104.4	5.24	2918

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	-1.2350321 x 10 ⁰¹	4.5798150 x 10 ⁰³	-3.2988115 x 10 ⁰⁵	1.8055226 x 10 ⁰⁷
0 to 50	-1.0903586 x 10 ⁰¹	3.7568367 x 10 ⁰³	-1.9369343 x 10 ⁰⁵	1.2766801 x 10 ⁰⁷
50 to 100	-9.3311616 x 10 ⁰⁰	2.5410983 x 10 ⁰³	9.7847100 x 10 ⁰⁴	-7.5413352 x 10 ⁰⁶
100 to 150	-7.7097417 x 10 ⁰⁰	9.8743173 x 10 ⁰²	5.6525911 x 10 ⁰⁵	-4.9867495 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
23.89 to 2.413	3.3606544 x 10 ⁻⁰³	3.3581928 x 10 ⁻⁰⁴	5.9441779 x 10 ⁻⁰⁶	-1.5308787 x 10 ⁻⁰⁷
2.413 to 0.4704	3.3540167 x 10 ⁻⁰³	3.4620149 x 10 ⁻⁰⁴	2.7023432 x 10 ⁻⁰⁶	-1.4213280 x 10 ⁻⁰⁷
0.4704 to 0.14033	3.3513357 x 10 ⁻⁰³	3.3982584 x 10 ⁻⁰⁴	-8.4441042 x 10 ⁻⁰⁷	1.1423443 x 10 ⁻⁰⁷
0.14033 to 0.0562	3.3309429 x 10 ⁻⁰³	3.2739091 x 10 ⁻⁰⁴	3.7842601 x 10 ⁻⁰⁹	1.0778302 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	23.890000	5.45	12.884099
-45	18.290000	5.24	11.835301
-40	14.140000	5.05	10.804607
-35	11.030000	4.88	9.7919247
-30	8.683000	4.71	8.7971079
-25	6.889000	4.55	7.8199711
-20	5.509000	4.40	6.8602946
-15	4.437000	4.26	5.9178322
-10	3.599000	4.12	4.9923158
-5	2.938000	4.00	4.0834609
0	2.413000	3.82	3.1909699
5	2.000000	3.70	2.4959072
10	1.667000	3.58	1.8310776
15	1.398000	3.46	1.194609
20	1.179000	3.35	0.5847789
25	1.000000	3.25	0
30	0.852200	3.15	0.5611927
35	0.729700	3.06	1.1001533
40	0.627600	2.97	1.6181354
45	0.542200	2.88	2.1163012
50	0.470400	2.81	2.5957293
55	0.409700	2.72	3.153301
60	0.358400	2.64	3.6900936
65	0.314800	2.56	4.2072083
70	0.277600	2.48	4.7056711
75	0.245700	2.41	5.1864384
80	0.218200	2.34	5.6504033
85	0.194500	2.27	6.0984005
90	0.173900	2.21	6.5312108
95	0.156000	2.14	6.9495656
100	0.140300	2.11	7.3541507
105	0.126500	2.05	7.5934784
110	0.114300	1.99	7.8425609
115	0.103700	1.93	8.1007032
120	0.094260	1.87	8.3672505
125	0.085950	1.82	8.6415866
130	0.078580	1.77	8.9231309
135	0.072030	1.72	9.2113367
140	0.066180	1.67	9.5056892
145	0.060960	1.62	9.8057033
150	0.056280	1.58	10.110922

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