



MATERIAL TYPE: D12.2

AVAILABLE PRODUCTS: RL, MS, NC

Data for material type : D12.2

Temp Range (°C)	Ratio	Beta
0 to 50	11.07	4244
0 to 70	24.44	4280
25 to 50	3.06	4312
25 to 85	11.62	4365
25 to 100	19.19	4383
25 to 125	41.30	4417
37.8 to 104.4	12.27	4416

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	-1.791861 x 10 ⁰¹	6.8143133 x 10 ⁰³	-5.3633730 x 10 ⁰⁵	2.9355090 x 10 ⁰⁷
0 to 50	-1.8419094 x 10 ⁰¹	7.2238145 x 10 ⁰³	-6.6301746 x 10 ⁰⁵	4.3701080 x 10 ⁰⁷
50 to 100	-1.6877070 x 10 ⁰¹	6.1464358 x 10 ⁰³	-4.4735013 x 10 ⁰⁵	3.4478460 x 10 ⁰⁷
100 to 150	-1.6532084 x 10 ⁰¹	5.8365085 x 10 ⁰³	-3.7630512 x 10 ⁰⁵	3.3197861 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
89.49 to 3.615	3.3505347 x 10 ⁻⁰³	2.3721963 x 10 ⁻⁰⁴	3.4494293 x 10 ⁻⁰⁶	-5.5089698 x 10 ⁻⁰⁸
3.615 to 0.3266	3.3540178 x 10 ⁻⁰³	2.3523316 x 10 ⁻⁰⁴	2.8970198 x 10 ⁻⁰⁶	-6.3414282 x 10 ⁻⁰⁸
0.3266 to 0.05210	3.3525172 x 10 ⁻⁰³	2.3213472 x 10 ⁻⁰⁴	1.3263281 x 10 ⁻⁰⁶	-6.3500803 x 10 ⁻⁰⁸
0.05210 to 0.0122	3.3401422 x 10 ⁻⁰³	2.2590630 x 10 ⁻⁰⁴	6.4595366 x 10 ⁻⁰⁷	-6.0096759 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	89.490000	7.59	6.3119133
-45	61.680000	7.31	5.9958006
-40	43.070000	7.06	5.6523184
-35	30.460000	6.81	5.2842208
-30	21.790000	6.59	4.8940026
-25	15.770000	6.37	4.4839253
-20	11.520000	6.17	4.0560416
-15	8.509000	5.98	3.612216
-10	6.341000	5.79	3.1541437
-5	4.768000	5.62	2.6833673
0	3.615000	5.53	2.2012913
5	2.753000	5.37	1.7559926
10	2.114000	5.21	1.3130616
15	1.635000	5.06	0.8726615
20	1.274000	4.92	0.4349336
25	1.000000	4.78	2.257E-14
30	0.789900	4.65	0.4320345
35	0.627900	4.53	0.8610806
40	0.502100	4.41	1.2870625
45	0.403900	4.30	1.709917
50	0.326600	4.18	2.1295915
55	0.265800	4.07	2.4530119
60	0.217500	3.96	2.784002
65	0.178900	3.85	3.1219022
70	0.147900	3.75	3.4660998
75	0.122900	3.66	3.8160258
80	0.102600	3.56	4.1711514
85	0.086080	3.47	4.5309848
90	0.072510	3.39	4.8950688
95	0.061340	3.31	5.262978
100	0.052100	3.26	5.6343163
105	0.044360	3.18	5.9854734
110	0.037920	3.10	6.3289386
115	0.032540	3.03	6.664996
120	0.028020	2.95	6.9939152
125	0.024210	2.89	7.3159525
130	0.020990	2.82	7.6313516
135	0.018260	2.76	7.9403443
140	0.015940	2.69	8.2431513
145	0.013950	2.63	8.5399829
150	0.012250	2.58	8.8310395