



# MATERIAL TYPE: D15.5

AVAILABLE PRODUCTS: RL, UD

Data for material type : D15.5

Temp Range (°C)	Ratio	Beta
0 to 50	13.85	4640
0 to 70	33.03	4683
25 to 50	3.41	4723
25 to 85	14.69	4783
25 to 100	25.44	4801
25 to 125	58.31	4826
37.8 to 104.4	15.56	4834

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	-2.2971561 x 10 <sup>01</sup>	9.4219390 x 10 <sup>03</sup>	-9.4420771 x 10 <sup>05</sup>	5.1678865 x 10 <sup>07</sup>
0 to 50	-2.0694719 x 10 <sup>04</sup>	8.2946355 x 10 <sup>03</sup>	-8.1319421 x 10 <sup>05</sup>	5.3599592 x 10 <sup>07</sup>
50 to 100	-1.8055502 x 10 <sup>01</sup>	6.3730026 x 10 <sup>03</sup>	-3.9652936 x 10 <sup>05</sup>	3.0561568 x 10 <sup>07</sup>
100 to 150	-1.8759948 x 10 <sup>01</sup>	7.0890071 x 10 <sup>03</sup>	-6.3348697 x 10 <sup>05</sup>	5.5886597 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
139.78 to 4.066	3.3631214 x 10 <sup>-03</sup>	2.0668438 x 10 <sup>-04</sup>	4.0601753 x 10 <sup>-06</sup>	-1.6194929 x 10 <sup>-08</sup>
4.066 to 0.2936	3.3540181 x 10 <sup>-03</sup>	2.1511912 x 10 <sup>-04</sup>	2.7168000 x 10 <sup>-06</sup>	-4.7021481 x 10 <sup>-08</sup>
0.2936 to 0.03931	3.3515087 x 10 <sup>-03</sup>	2.1080591 x 10 <sup>-04</sup>	8.7406666 x 10 <sup>-07</sup>	-4.2183871 x 10 <sup>-08</sup>
0.03931 to 0.0081	3.3550573 x 10 <sup>-03</sup>	2.1243225 x 10 <sup>-04</sup>	9.7230719 x 10 <sup>-07</sup>	-6.2412488 x 10 <sup>-08</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	139.800000	8.18	5.9254574
-45	93.470000	7.92	5.4019414
-40	63.290000	7.68	4.9121977
-35	43.360000	7.45	4.4537667
-30	30.030000	7.24	4.024412
-25	21.020000	7.03	3.6220962
-20	14.870000	6.84	3.2449595
-15	10.610000	6.65	2.8913011
-10	7.642000	6.48	2.5595628
-5	5.552000	6.31	2.2483148
0	4.066000	6.03	1.9562425
5	3.022000	5.85	1.5898149
10	2.265000	5.68	1.2097626
15	1.712000	5.53	0.8173506
20	1.303000	5.38	0.4137405
25	1.000000	5.23	0
30	0.772600	5.09	0.4228893
35	0.600900	4.96	0.8540241
40	0.470400	4.84	1.2925726
45	0.370500	4.71	1.7377685
50	0.293600	4.59	2.1889054
55	0.234100	4.47	2.4924838
60	0.187800	4.34	2.8137285
65	0.151600	4.22	3.1513731
70	0.123100	4.11	3.5042355
75	0.100500	4.00	3.871212
80	0.082500	3.90	4.2512713
85	0.068060	3.80	4.6434499
90	0.056420	3.70	5.0468467
95	0.046990	3.61	5.4606189
100	0.039310	3.52	5.8839778
105	0.033040	3.44	6.049962
110	0.027890	3.36	6.2496506
115	0.023630	3.28	6.4811671
120	0.020090	3.20	6.7427329
125	0.017150	3.13	7.0326618
130	0.014690	3.06	7.3493551
135	0.012620	3.00	7.691297
140	0.010890	2.93	8.0570498
145	0.009416	2.87	8.4452501
150	0.008170	2.81	8.8546042

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