



# MATERIAL TYPE: D15.0

AVAILABLE PRODUCTS: RL, UD

Data for material type : D15.0

Temp Range (°C)	Ratio	Beta
0 to 50	13.54	4600
0 to 70	31.95	4638
25 to 50	3.36	4676
25 to 85	14.25	4728
25 to 100	24.48	4744
25 to 125	55.56	4769
37.8 to 104.4	15.04	4775

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	-2.2180584 x 10 <sup>01</sup>	8.9750475 x 10 <sup>03</sup>	-8.6633718 x 10 <sup>05</sup>	4.7416815 x 10 <sup>07</sup>
0 to 50	-2.0135414 x 10 <sup>01</sup>	7.9520619 x 10 <sup>03</sup>	-7.4589708 x 10 <sup>05</sup>	4.9163837 x 10 <sup>07</sup>
50 to 100	-1.7588267 x 10 <sup>01</sup>	6.0923981 x 10 <sup>03</sup>	-3.3985162 x 10 <sup>05</sup>	2.6193265 x 10 <sup>07</sup>
100 to 150	-1.7989982 x 10 <sup>01</sup>	6.4956737 x 10 <sup>03</sup>	-4.7696941 x 10 <sup>05</sup>	4.2078525 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
135.45 to 4.024	3.3616847 x 10 <sup>-03</sup>	2.0962893 x 10 <sup>-04</sup>	3.8822929 x 10 <sup>-06</sup>	-2.4766822 x 10 <sup>-08</sup>
4.024 to 0.2972	3.3540179 x 10 <sup>-03</sup>	2.1702574 x 10 <sup>-04</sup>	2.5592363 x 10 <sup>-06</sup>	-4.9508057 x 10 <sup>-08</sup>
0.2972 to 0.04085	3.3517200 x 10 <sup>-03</sup>	2.1294425 x 10 <sup>-04</sup>	7.6822798 x 10 <sup>-07</sup>	-3.9649251 x 10 <sup>-08</sup>
0.04085 to 0.00867	3.3505578 x 10 <sup>-03</sup>	2.1250688 x 10 <sup>-04</sup>	6.9521697 x 10 <sup>-07</sup>	-5.5249288 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	135.500000	8.17	5.7343136
-45	90.650000	7.91	5.2276852
-40	61.440000	7.66	4.7537398
-35	42.160000	7.42	4.3100968
-30	29.250000	7.20	3.8945923
-25	20.520000	6.99	3.5052544
-20	14.540000	6.79	3.1402834
-15	10.410000	6.60	2.7980333
-10	7.516000	6.42	2.4769963
-5	5.476000	6.25	2.1757885
0	4.024000	5.99	1.8931379
5	2.996000	5.81	1.5385305
10	2.250000	5.64	1.170738
15	1.704000	5.48	0.7909844
20	1.301000	5.33	0.4003941
25	1.000000	5.18	5.551E-14
30	0.774400	5.05	0.4092477
35	0.603800	4.91	0.826475
40	0.473800	4.79	1.2508767
45	0.374100	4.66	1.6817114
50	0.297200	4.54	2.1182955
55	0.237600	4.41	2.4120811
60	0.191200	4.29	2.7229631
65	0.154700	4.17	3.0497159
70	0.126000	4.06	3.3911957
75	0.103100	3.95	3.7463342
80	0.084840	3.85	4.1141335
85	0.070170	3.75	4.4936612
90	0.058320	3.65	4.8840452
95	0.048700	3.56	5.2844699
100	0.040850	3.48	5.694172
105	0.034400	3.40	5.8548019
110	0.029080	3.32	6.0480489
115	0.024690	3.24	6.2720972
120	0.021040	3.16	6.5252254
125	0.018000	3.09	6.8058017
130	0.015450	3.02	7.1122791
135	0.013310	2.95	7.4431907
140	0.011500	2.89	7.797145
145	0.009971	2.82	8.1728227
150	0.008672	2.76	8.5689718