



MATERIAL TYPE: D9.7A

AVAILABLE PRODUCTS: RL, MS

Data for material type : D9.7A

Temp Range (°C)	Ratio	Beta
0 to 50	9.11	3900
0 to 70	18.70	3921
25 to 50	2.78	3938
25 to 85	9.32	3972
25 to 100	14.67	3984
25 to 125	29.06	4000
37.8 to 104.4	9.71	4003

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	-1.6443767 x 10 ⁰¹	6.1080608 x 10 ⁰³	-4.4141671 x 10 ⁰⁵	2.4159818 x 10 ⁰⁷
0 to 50	-1.5470381 x 10 ⁰¹	5.6022839 x 10 ⁰³	-3.7886070 x 10 ⁰⁵	2.4971623x 10 ⁰⁷
50 to 100	-1.4807463 x 10 ⁰¹	5.1550854 x 10 ⁰³	-2.9717659 x 10 ⁰⁵	2.2904187x 10 ⁰⁷
100 to 150	-1.4862658 x 10 ⁰¹	5.2676519 x 10 ⁰³	-3.5374848 x 10 ⁰⁵	3.1207901x 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
69.26 to 3.277	3.3570420 x 10 ⁻⁰³	2.5214848 x 10 ⁻⁰⁴	3.3743283 x 10 ⁻⁰⁶	-6.4957311 x 10 ⁻⁰⁸
3.277 to 0.3599	3.3540170 x 10 ⁻⁰³	2.5617244 x 10 ⁻⁰⁴	2.1400943 x 10 ⁻⁰⁶	-7.2405219 x 10 ⁻⁰⁸
0.3599 to 0.06816	3.3530481 x 10 ⁻⁰³	2.5420230 x 10 ⁻⁰⁴	1.1431163 x 10 ⁻⁰⁶	-6.9383563 x 10 ⁻⁰⁸
0.06816 to 0.0187	3.3536166 x 10 ⁻⁰³	2.5377200 x 10 ⁻⁰⁴	8.5433271 x 10 ⁻⁰⁷	-8.7912262 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	69.260000	7.25	5.9747867
-45	48.550000	6.98	5.4508164
-40	34.470000	6.73	4.9422016
-35	24.780000	6.49	4.4481681
-30	18.010000	6.27	3.9679964
-25	13.240000	6.06	3.501017
-20	9.832000	5.86	3.0466053
-15	7.372000	5.67	2.6041786
-10	5.579000	5.49	2.1731918
-5	4.258000	5.32	1.7531348
0	3.277000	5.14	1.3435292
5	2.546000	4.97	1.0497509
10	1.993000	4.82	0.7692877
15	1.573000	4.67	0.5013297
20	1.250000	4.53	0.2451304
25	1.000000	4.39	0
30	0.805500	4.26	0.234699
35	0.652800	4.14	0.4595573
40	0.532300	4.03	0.6751227
45	0.436500	3.91	0.8819037
50	0.359900	3.81	1.0803735
55	0.298300	3.70	1.2887164
60	0.248600	3.60	1.4853207
65	0.208200	3.50	1.6708498
70	0.175200	3.40	1.8459203
75	0.148200	3.31	2.0111061
80	0.125800	3.23	2.1669413
85	0.107300	3.14	2.3139244
90	0.091890	3.06	2.4525204
95	0.078990	2.99	2.583164
100	0.068160	2.90	2.7062619
105	0.059060	2.83	2.7684718
110	0.051340	2.77	2.8316823
115	0.044790	2.70	2.8958148
120	0.039200	2.64	2.9607957
125	0.034410	2.57	3.026556
130	0.030300	2.52	3.0930312
135	0.026760	2.46	3.1601605
140	0.023690	2.40	3.2278871
145	0.021040	2.35	3.2961576
150	0.018730	2.30	3.3649219

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