MATERIAL TYPE: 3

AVAILABLE PRODUCTS: DK, NK

Data for material type : 3

Temp Range (°C)	Ratio	Beta
0 to 50	8.96	3871
0 to 70	18.37	3897
25 to 50	2.76	3916
25 to 85	9.25	3960
25 to 100	14.59	3976
25 to 125	29.08	4001
37.8 to 104.4	9.68	4001

To calculate Rt/R25 at temperatures other than those listed in the table, use the following equation:

$Ln(Rt/R25) = A + B / T + C / T^2 + D / T^3$

where T = temperature in K

Temp Range (°C)	A	B	C	D
-40 to 155	-1.4611310E+01	4.8207686E+03	-1.3426246E+05	-1.2523230E+06
155 to 300	-1.2973645E+01	2.9153580E+03	6.0472359E+05	-9.6897361E+07

To calculate the actual thermistor temperature as a function of the thermistor resistance, use the following equation:

$I/T = a + b(Ln\ Rt/R25) + c(Ln\ Rt/R25)^2 + d(Ln\ Rt/R25)^3$

Rt/R25 range	a	b	c	d
0.001415 to 0.01657	3.3620802E-03	2.6539518E-04	4.9923525E-06	3.2224557E-07
0.01657 to 33.00	3.3539908E-03	2.5788772E-04	2.5364809E-06	5.3216393E-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 α (%/°C)	β Deviation† (±%)
-40	33.00	-6.62	3.56
-35	23.84	-6.40	3.22
-30	17.41	-6.18	2.90
-25	12.85	-5.97	2.59
-20	9.579	-5.78	2.29
-15	7.210	-5.59	2.00
-10	5.477	-5.41	1.72
-5	4.197	-5.24%	1.44
0	3.243	-5.08	1.18
5	2.526	-4.92	0.93
10	1.983	-4.77	0.69
15	1.567	-4.63	0.45
20	1.248	-4.49	0.22
25	1.0000	-4.36	0.00
30	0.8066	-4.24	0.22
35	0.6545	-4.12	0.42
40	0.5343	-4.00	0.63
45	0.4386	-3.89	0.83
50	0.3620	-3.79	1.02
55	0.3003	-3.68	1.21
60	0.2504	-3.59	1.39
65	0.2098	-3.49	1.57
70	0.1766	-3.40	1.75
75	0.1493	-3.32	1.92
80	0.1268	-3.23	2.09
85	0.1081	-3.15	2.25
90	0.09249	-3.07	2.41
95	0.07946	-3.00	2.56
100	0.06853	-2.93	2.72
105	0.05930	-2.86	2.87
110	0.05150	-2.79	3.01
115	0.04487	-2.72	3.15
120	0.03922	-2.66	3.29
125	0.03438	-2.60	3.43
130	0.03024	-2.54	3.56
135	0.02666	-2.49	3.69
140	0.02358	-2.43	3.82
145	0.02091	-2.38	3.94
150	0.01859	-2.33	4.07
155	0.01657	-2.28	4.19
160	0.01481	-2.22	4.30
165	0.01328	-2.17	4.42
170	0.01193	-2.12	4.53
175	0.01074	-2.07	4.64
180	0.009691	-2.03	4.75
185	0.008766	-1.99	4.85
190	0.007945	-1.94	4.95
195	0.007216	-1.90	5.06
200	0.006568	-1.86	5.15
205	0.005989	-1.83	5.25
210	0.005472	-1.79	5.35
215	0.005008	-1.75	5.44
220	0.004593	-1.72	5.53
225	0.004219	-1.68	5.62
230	0.003882	-1.65	5.71
235	0.003578	-1.61	5.79
240	0.003303	-1.58	5.88
245	0.003054	-1.55	5.96
250	0.002828	-1.52	6.04
255	0.002623	-1.49	6.12
260	0.002436	-1.46	6.20
265	0.002266	-1.44	6.28
270	0.002110	-1.41	6.35
275	0.001968	-1.38	6.43
280	0.001838	-1.36	6.50
285	0.001718	-1.33	6.57
290	0.001608	-1.31	6.64
295	0.001508	-1.28	6.71
300	0.001415	-1.26	6.78