



MATERIAL TYPE: 10KY

AVAILABLE PRODUCTS:

HM, C100, EC95, DC95, MC65, MF65, SC30, SC50

Data for material type : 10ky

Temp Range (°C)	Ratio	Beta
0 to 50	7.59	3579
0 to 70	14.84	3612
25 to 50	2.57	3636
25 to 85	7.95	3690
25 to 100	12.19	3709
25 to 125	23.33	3739
37.8 to 104.4	8.34	3740

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

where K = °C + 273.15

Temp Range (°C)	A	B	C	D
-50 to 0	-1.3840984E+01	4.5845963E+03	-1.1258348E+05	-7.1382240E+06
0 to 50	-1.3867840E+01	4.6083853E+03	-1.1959264E+05	-6.4512578E+06
50 to 100	-1.3894006E+01	4.6436036E+03	-1.3429922E+05	-4.4935401E+06
100 to 150	-1.3828359E+01	4.5620098E+03	-1.0095714E+05	-8.9851252E+06

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
44.730 to 2.956	3.3536689E-03	2.7933771E-04	3.5641256E-06	2.6369733E-07
2.956 to 0.38929	3.3540153E-03	2.7867185E-04	4.0006637E-06	1.5575628E-07
0.38929 to 0.08203	3.3538757E-03	2.7837770E-04	3.7947689E-06	1.0160299E-07
0.08203 to 0.02400	3.3541198E-03	2.7860879E-04	3.8520527E-06	1.0306448E-07

†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	44.73	6.32%	3.96%
-45	32.78	6.13%	3.63%
-40	24.25	5.94%	3.31%
-35	18.11	5.75%	3.00%
-30	13.64	5.58%	2.70%
-25	10.37	5.41%	2.42%
-20	7.944	5.25%	2.14%
-15	6.136	5.09%	1.87%
-10	4.775	4.94%	1.61%
-5	3.744	4.80%	1.36%
0	2.956	4.66%	1.12%
5	2.350	4.52%	0.88%
10	1.881	4.40%	0.65%
15	1.515	4.27%	0.43%
20	1.227	4.15%	0.21%
25	1.000	4.04%	0.00%
30	0.8195	3.93%	0.21%
35	0.6752	3.82%	0.41%
40	0.5592	3.72%	0.61%
45	0.4655	3.62%	0.80%
50	0.3893	3.53%	0.99%
55	0.3271	3.44%	1.17%
60	0.2761	3.35%	1.34%
65	0.2340	3.26%	1.52%
70	0.1992	3.18%	1.69%
75	0.1702	3.10%	1.86%
80	0.1461	3.03%	2.03%
85	0.1258	2.95%	2.19%
90	0.1087	2.88%	2.34%
95	0.09427	2.81%	2.48%
100	0.08203	2.75%	2.63%
105	0.07161	2.69%	2.78%
110	0.06271	2.62%	2.93%
115	0.05508	2.57%	3.09%
120	0.04853	2.50%	3.21%
125	0.04287	2.45%	3.36%
130	0.03798	2.40%	3.48%
135	0.03374	2.34%	3.62%
140	0.03004	2.30%	3.76%
145	0.02682	2.24%	3.88%
150	0.02400	2.21%	4.00%