

# Resistance - Temperature Table

**Ratio** is the resistance at temperature divided by the resistance at 25°C. To find the actual resistance value at the temperatures listed in the charts, multiply the R25 value by the number listed in the Ratio column next to the corresponding temperature.

As an example, a Curve A thermistor with a temperature tolerance of  $\pm 1^\circ\text{C}$  over the temperature range  $0^\circ$  to  $70^\circ\text{C}$  would have the following resistance tolerance:  $0^\circ\text{C} = \pm 5.1\%$ ;  $25^\circ\text{C} = \pm 4.4\%$ ;  $70^\circ\text{C} = \pm 3.4\%$

**NTC** (Negative Temperature Coefficient) is the negative percent resistance change per degree C. To determine the resistance tolerance of a precision thermistor at any temperature point multiply the temperature tolerance times the NTC.

	Curve A		Curve B		Curve C		Curve D		Curve E	
$\beta$ at 25°C/85°C	3975K		3942K		3695K		4262K		4434K	
Temperature °C	Typical R25 = 1K to 100K		Typical R25 = 10K to 100K		Typical R25 = 5K to 20K		Typical R25 = 25K to 100K		Typical R25 = 1K to 200K	
	R <sub>T</sub> /R <sub>25</sub> RATIO		R <sub>T</sub> /R <sub>25</sub> RATIO		R <sub>T</sub> /R <sub>25</sub> RATIO		R <sub>T</sub> /R <sub>25</sub> RATIO		R <sub>T</sub> /R <sub>25</sub> RATIO	
	RATIO	NTC	RATIO	NTC	RATIO	NTC	RATIO	NTC	RATIO	NTC
-50	67.13	7.1	56.39	6.7	44.13	6.3	82.36	7.4	89.69	7.4
-45	47.26	6.9	40.56	6.5	32.36	6.1	57.30	7.1	62.25	7.2
-40	33.69	6.7	29.48	6.3	23.97	5.9	40.34	6.9	43.69	7.0
-35	24.29	6.4	21.64	6.1	17.92	5.3	28.72	6.7	30.98	6.8
-30	17.71	6.2	16.03	5.9	13.52	5.6	20.67	6.5	22.20	6.6
-25	13.05	6.0	11.99	5.7	10.29	5.4	15.02	6.3	16.06	6.4
-20	9.711	5.8	9.040	5.6	7.891	5.2	11.03	6.1	11.73	6.2
-15	7.297	5.6	6.875	5.4	6.102	5.1	8.174	5.9	8.644	6.0
-10	5.534	5.4	5.270	5.2	4.754	4.9	6.113	5.7	6.425	5.8
-5	4.234	5.3	4.071	5.1	3.731	4.8	4.611	5.6	4.816	5.7
0	3.266	5.1	3.168	4.9	2.949	4.6	3.507	5.4	3.638	5.5
5	2.540	5.0	2.483	4.8	2.346	4.5	2.689	5.2	2.770	5.4
10	1.991	4.8	1.959	4.7	1.879	4.4	2.077	5.1	2.125	5.2
15	1.572	4.7	1.556	4.5	1.514	4.3	1.617	4.9	1.642	5.1
20	1.249	4.5	1.244	4.4	1.227	4.1	1.267	4.8	1.277	5.0
25	1.000	4.4	1.000	4.3	1.000	4.0	1.000	4.7	1.000	4.8
30	0.8056	4.3	0.8088	4.2	0.8196	3.9	0.7943	4.5	0.7881	4.7
35	0.6530	4.1	0.6579	4.1	0.6754	3.8	0.6349	4.4	0.6250	4.6
37	0.6014	4.1	0.6066	4.0	0.6260	3.8	0.5815	4.4	0.5706	4.5
40	0.5325	4.0	0.5380	4.0	0.5594	3.7	0.5106	4.3	0.4986	4.5
45	0.4367	3.9	0.4423	3.9	0.4655	3.6	0.4130	4.2	0.4001	4.3
50	0.3601	3.8	0.3654	3.8	0.3893	3.5	0.3359	4.1	0.3228	4.2
55	0.2985	3.7	0.3034	3.7	0.3270	3.4	0.2747	4.0	0.2619	4.1
60	0.2487	3.6	0.2531	3.6	0.2760	3.4	0.2259	3.9	0.2136	4.0
65	0.2082	3.5	0.2121	3.5	0.2338	3.3	0.1866	3.8	0.1750	3.9
70	0.1752	3.4	0.1785	3.4	0.1990	3.2	0.1549	3.7	0.1441	3.8
75	0.1480	3.3	0.1508	3.3	0.1700	3.1	0.1293	3.6	0.1193	3.7
80	0.1256	3.2	0.1280	3.2	0.1457	3.0	0.1083	3.5	0.09915	3.7
85	0.1071	3.2	0.1091	3.2	0.1254	3.0	0.09115	3.4	0.08278	3.6
90	0.09161	3.1	0.09327	3.1	0.1084	2.9	0.07704	3.3	0.06941	3.5
95	0.07870	3.0	0.08006	3.0	0.09392	2.8	0.06538	3.2	0.05844	3.4
100	0.06786	2.9	0.06897	2.9	0.08168	2.8	0.05570	3.2	0.04940	3.3
105	0.05873	2.9	0.05962	2.9	0.07127	2.7	0.04764	3.1	0.04192	3.2
110	0.05100	2.8	0.05171	2.8	0.06237	2.6	0.04089	3.0	0.03571	3.2
115	0.04444	2.7	0.04500	2.8	0.05476	2.6	0.03522	2.9	0.03053	3.1
120	0.03885	2.7	0.03928	2.7	0.04821	2.5	0.03045	2.9	0.02619	3.0
125	0.03408	2.6	0.03439	2.6	0.04257	2.5	0.02641	2.8	0.02254	3.0
130	0.02997	2.5	0.03020	2.6	0.03769	2.4	0.02298	2.8	0.01947	2.9
135	0.02645	2.5	0.02660	2.5	0.03346	2.4	0.02006	2.7	0.01687	2.8
140	0.02340	2.4	0.02349	2.5	0.02979	2.3	0.01756	2.6	0.01467	2.8
145	0.02076	2.4	0.02080	2.4	0.02658	2.3	0.01542	2.6	0.01279	2.7
150	0.01487	2.3	0.01846	2.4	0.02377	2.2	0.01358	2.5	0.01118	2.7

# Resistance - Temperature Table

$\beta$ at 25°C/85°C	Curve F		Curve G		Curve H		Curve K		Curve P	
	3435K		4390K		4847K		3485K		4144K	
Temperature °C	Typical R <sub>25</sub> = 10K		Typical R <sub>25</sub> = 10K		Typical R <sub>25</sub> = 1MEG		Typical R <sub>25</sub> = 200 to 2K		Typical R <sub>25</sub> = 100K	
	R <sub>T</sub> /R <sub>25</sub> RATIO		R <sub>T</sub> /R <sub>25</sub> RATIO		R <sub>T</sub> /R <sub>25</sub> RATIO		R <sub>T</sub> /R <sub>25</sub> RATIO		R <sub>T</sub> /R <sub>25</sub> RATIO	
	RATIO	NTC	RATIO	NTC	RATIO	NTC	RATIO	NTC	RATIO	NTC
-50	32.95	6.2	95.84	8.1			39.18	6.2		
-45	24.77	6.0	65.66	7.8			28.88	6.0		
-40	18.85	5.8	45.72	7.5			21.50	5.8	33.58	6.5
-35	14.41	5.6	32.06	7.2			16.18	5.6	24.41	6.3
-30	11.13	5.4	22.82	7.0			12.28	5.4	17.91	6.3
-25	8.643	5.2	16.37	6.7			9.415	5.2	13.26	5.9
-20	6.777	5.0	11.91	6.5	14.65	6.1	7.278	5.1	9.898	5.8
-15	5.341	4.8	8.727	6.3	10.51	6.6	5.673	4.9	7.452	5.6
-10	4.247	4.7	6.472	6.0	7.607	6.4	4.457	4.7	5.655	5.4
-5	3.39	4.5	4.834	5.8	5.556	6.2	3.528	4.6	4.325	5.3
0	2.728	4.4	3.65	5.7	4.093	6.0	2.813	4.5	3.331	5.1
5	2.205	4.2	2.772	5.5	3.041	5.9	2.259	4.3	2.585	5.0
10	1.796	4.1	2.125	5.3	2.277	5.7	1.826	4.2	2.019	4.9
15	1.469	4.0	1.64	5.1	1.718	5.6	1.485	4.1	1.587	4.7
20	1.209	3.9	1.277	5.0	1.306	5.4	1.215	4.0	1.256	4.6
25	1.000	3.7	1.000	4.8	1.000	5.3	1.000	3.8	1.000	4.5
30	0.8313	3.6	0.7888	4.7	0.7710	5.1	0.8277	3.7	0.8008	4.4
35	0.694	3.5	0.6259	4.5	0.5984	5.0	0.6887	3.6	0.6450	4.3
37					0.5417	5.0	0.6408	3.6	0.5924	4.2
40	0.5827	3.4	0.5003	4.4	0.4675	4.9	0.5760	3.5	0.5224	4.2
45	0.4912	3.3	0.402	4.3	0.3675	4.8	0.4842	3.4	0.4253	4.1
50	0.4161	3.2	0.3251	4.1	0.2907	4.6	0.4089	3.3	0.3480	4.0
55	0.3536	3.1	0.2642	4.0	0.2312	4.5	0.3469	3.2	0.2862	3.9
60	0.302	3.1	0.2161	3.9	0.1580	4.4	0.2956	3.2	0.2365	3.8
65	0.2588	3.0	0.1775	3.8	0.1488	4.3	0.2530	3.1	0.1964	3.4
70	0.2228	2.9	0.1466	3.7	0.1204	4.2	0.2174	3.0	0.1638	3.6
75	0.1924	2.8	0.1215	3.6	0.09784	4.1	0.1875	2.9	0.1372	3.5
80	0.1668	2.7	0.1013	3.5	0.07993	4.0	0.1623	2.8	0.1154	3.4
85	0.1451	2.7	0.08483	3.4	0.06561	3.9	0.1411	2.8	0.09742	3.3
90	0.1266	2.6	0.07135	3.3	0.05411	3.8	0.1230	2.7	0.08260	3.3
95	0.1108	3.0	0.06025	3.3	0.04483	3.7	0.1076	2.6	0.07030	3.2
100	0.09731	2.5	0.05111	3.2	0.03730	3.6	0.09450	2.6	0.06005	3.1
105	0.08572	2.4	0.04351	3.1	0.03117	3.6	0.08322	2.5	0.05148	3.0
110	0.07576	2.4	0.0372	3.0	0.02615	3.5	0.07351	2.5	0.04429	3.0
115			0.0319	2.9	0.02203	3.4	0.06512	2.4	0.03823	2.9
120			0.02746	2.9	0.01863	3.3	0.05786	2.3	0.03310	2.8
125			0.02371	2.8	0.01581	3.2	0.05154	2.3	0.02876	2.8
130					0.01347	3.2			0.02506	2.7
135					0.01152	3.1			0.02190	2.7
140					0.00988	3.0			0.01920	2.6
145					0.00850	3.0			0.0168	2.6
150					0.00734	2.9			0.01487	2.5