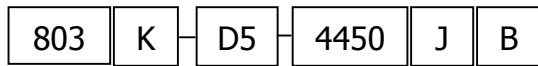


803K-D5-4450JB NTC Thermistor Specifications

Part No : 803K-D5-4450JB

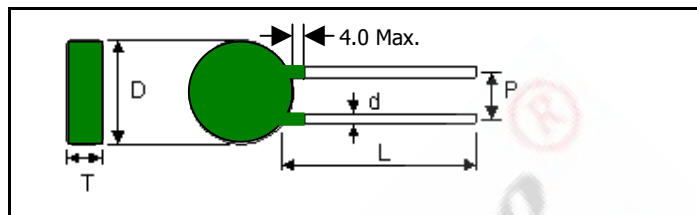
1. Part Number System



- 803 — Resistance at 25°C
- K — Resistance at 25°C Tolerance (J=±5%, K=±10%)
- D5 — D5 Series
- 4450 — B Value Code
- J — B Value Tolerance Code (G=±2%, J=±5%, K=±10%)
- B — B Value Sub Code (A=25°C/85°C, B=25°C/50°C)

* All coding please see Coding page

2. Dimensions



D	D max.	L min.	d	P	Tmax.
D2	3.5	25	0.45 ±0.05	2.5±0.5	2
D3	4.5	25	0.45 ±0.05	2.5±0.5	3
D5	6.5	25	0.45 ±0.05	2.5±0.5	4

- a) Thermistor Element : 5mm Disk Tpye
- b) Coating Resin : Epoxy Resin
- c) Lead Wire : 0.45 ±0.05mm (Lead Spacing 2.5mm)
- d) Marking :

3. Electrical

- a) Zero Power Resistance at 25°C : R25 = 80KΩ ±10%
- b) Specific Temperature : B25 / 50 = 4,450K ±5%
- c) Thermal Time Constant : 20 Sec. Max.
- d) Thermal Dissipation Constant : 7.5mW / °C (in still air 25°C)
- e) Max. Permissible - Load : 500mW (in still air at 25°C)
- f) Insulation Resistance : 100MΩMin. at DC 500V (in water)
- g) Dielectric With Standard Voltage : 1500V AC / Min. or 1800V AC/1Sec.
Between water and lead wire, leakage current shall not exceed 10mA
- h) Operating Temperature : - 50°C ~ 125°C

4. Mechanical

Tensile Strength

Test	Conditions	Post Test Limits	Results
a Bend	Load : 0.25g Bend : 2 times	No physical damage and electrical characteristic normal	O K
a pull	Load : 0.50g Bend : 5 times		O K

Testing Method

- 1 Thermistor shall be placed vertically with a load applied to leads and shall consist one bend 90 from the point of egress and back to the original position.
- 2 Thermistor shall be placed vertically with a load applied to leads for a period of time as specified

5. Reliability Test

- a) Thermal Shock Test
Perform 100 cycles with -20°C (in air) 60 seconds
→ room temperature (in air) 20 seconds
→ 80°C (in air) 60 Seconds as 1 cycle
- b) Temperature Cycling
Perform 20 cycles with -30°C (in air) 60 seconds
→ room temperature (in air) 30 minutes
→ 100°C (in air) 60 minutes as 1 cycle
- c) High Humidity Storage Test
Leave the test piece in atmosphere of 40°C, 90 to 95% RH for 1000 hours.
- d) High Temperature Storage Test
Leave the test piece in atmosphere of 80°C for 1000 hours.

After the test in above items 5-1 to 5-4 the rate of variation for resistance R25 shall be within $\pm 5\%$ to the initial value, and insulation resistance shall exceed 100M Ω at 500V DC.

6. Soldering

a) Solderability

Terminals shall be immersed into solder bath up to 2.5mm from the body at 250°C \pm 5°C for 10 \pm 0.5 seconds. More than 90% of its terminals shall be covered with solder.

b) Resistance to soldering heat

After lead wires are immersed into solder bath up to 2.5mm from the body at 300°C \pm 5°C for 3.5 \pm 0.5 seconds, the change ratio of R25 shall be within $\pm 2\%$ of the initial value.

R25 = 80K Ω $\pm 10\%$

B25 / 50 = 4,450K $\pm 5\%$

7. Resistance VS Temperature Table

Temperature °C	Minimum KΩ	Center KΩ	Maximum KΩ	Tolerance [R]		Tolerance [°C]	
				ΔR (%)	-ΔR (%)	ΔT	-ΔT
-50	8,470.99	12,096.80	17,101.82	41.37	-29.97	4.85	-3.51
-49	7,783.07	11,065.00	15,573.53	40.75	-29.66	4.82	-3.51
-48	7,156.51	10,129.40	14,193.88	40.13	-29.35	4.79	-3.50
-47	6,585.29	9,280.17	12,947.08	39.51	-29.04	4.75	-3.49
-46	6,064.16	8,508.77	11,819.48	38.91	-28.73	4.72	-3.49
-45	5,588.35	7,807.50	10,798.81	38.31	-28.42	4.69	-3.48
-44	5,153.57	7,169.45	9,874.12	37.72	-28.12	4.66	-3.47
-43	4,756.01	6,588.48	9,035.72	37.14	-27.81	4.62	-3.46
-42	4,392.20	6,059.06	8,274.92	36.57	-27.51	4.59	-3.45
-41	4,059.03	5,576.25	7,583.99	36.01	-27.21	4.56	-3.44
-40	3,753.69	5,135.59	6,955.98	35.45	-26.91	4.52	-3.43
-39	3,473.66	4,733.12	6,384.74	34.89	-26.61	4.49	-3.42
-38	3,216.657	4,365.24	5,864.71	34.35	-26.31	4.46	-3.41
-37	2,980.628	4,028.74	5,390.96	33.81	-26.02	4.42	-3.40
-36	2,763.704	3,720.710	4,959.01	33.28	-25.72	4.39	-3.39
-35	2,564.210	3,438.550	4,564.911	32.76	-25.43	4.35	-3.38
-34	2,380.618	3,179.900	4,205.061	32.24	-25.14	4.32	-3.37
-33	2,211.553	2,942.640	3,876.254	31.73	-24.84	4.29	-3.36
-32	2,055.753	2,724.840	3,575.578	31.22	-24.56	4.25	-3.34
-31	1,912.095	2,524.780	3,300.448	30.72	-24.27	4.22	-3.33
-30	1,779.538	2,340.880	3,048.501	30.23	-23.98	4.18	-3.32
-29	1,657.153	2,171.730	2,817.632	29.74	-23.69	4.15	-3.31
-28	1,544.092	2,016.050	2,605.941	29.26	-23.41	4.11	-3.29
-27	1,439.571	1,872.660	2,411.682	28.78	-23.13	4.08	-3.28
-26	1,342.888	1,740.510	2,233.308	28.31	-22.85	4.04	-3.26
-25	1,253.415	1,618.660	2,069.434	27.85	-22.56	4.01	-3.25
-24	1,170.545	1,506.210	1,918.748	27.39	-22.29	3.97	-3.23
-23	1,093.761	1,402.390	1,780.125	26.94	-22.01	3.94	-3.22
-22	1,022.559	1,306.460	1,652.491	26.49	-21.73	3.90	-3.20
-21	956.513	1,217.790	1,534.932	26.04	-21.46	3.87	-3.19
-20	895.206	1,135.770	1,426.570	25.60	-21.18	3.83	-3.17
-19	838.268	1,059.860	1,326.628	25.17	-20.91	3.79	-3.15
-18	785.357	989.560	1,234.390	24.74	-20.64	3.76	-3.13
-17	736.161	924.420	1,149.214	24.32	-20.37	3.72	-3.12
-16	690.398	864.030	1,070.517	23.90	-20.10	3.69	-3.10
-15	647.803	808.010	997.759	23.48	-19.83	3.65	-3.08
-14	608.132	756.010	930.448	23.07	-19.56	3.61	-3.06
-13	571.170	707.720	868.146	22.67	-19.29	3.58	-3.04
-12	536.712	662.850	810.446	22.27	-19.03	3.54	-3.02
-11	504.577	621.140	756.985	21.87	-18.77	3.50	-3.00
-10	474.586	582.340	707.414	21.48	-18.50	3.46	-2.98
-9	446.585	546.230	661.428	21.09	-18.24	3.43	-2.96
-8	420.431	512.610	618.749	20.71	-17.98	3.39	-2.94
-7	395.982	481.280	579.103	20.33	-17.72	3.35	-2.92
-6	373.130	452.090	542.281	19.95	-17.47	3.31	-2.90
-5	351.747	424.860	508.038	19.58	-17.21	3.27	-2.88
-4	331.739	399.460	476.195	19.21	-16.95	3.24	-2.86
-3	313.005	375.750	446.562	18.85	-16.70	3.20	-2.83
-2	295.458	353.610	418.976	18.49	-16.45	3.16	-2.81
-1	279.010	332.920	393.274	18.13	-16.19	3.12	-2.79
0	263.589	313.580	369.321	17.78	-15.94	3.08	-2.76

R25 = 80KΩ ±10%

B25 / 50 = 4,450K ±5%

803K-D5-4450JB**NTC Thermistor Specifications**

Temperature °C	Minimum KΩ	Center KΩ	Maximum KΩ	Tolerance [R]		Tolerance [°C]	
				ΔR (%)	-ΔR (%)	ΔT	-ΔT
0	263.589	313.580	369.321	17.78	-15.94	3.08	-2.76
1	249.122	295.490	346.983	17.43	-15.69	3.04	-2.74
2	235.551	278.570	326.151	17.08	-15.44	3.00	-2.72
3	222.808	262.730	306.707	16.74	-15.19	2.96	-2.69
4	210.835	247.890	288.543	16.40	-14.95	2.92	-2.67
5	199.588	233.990	271.578	16.06	-14.70	2.88	-2.64
6	189.014	220.960	255.722	15.73	-14.46	2.84	-2.61
7	179.070	208.740	240.893	15.40	-14.21	2.81	-2.59
8	169.717	197.280	227.026	15.08	-13.97	2.76	-2.56
9	160.911	186.520	214.042	14.76	-13.73	2.72	-2.53
10	152.614	176.410	201.877	14.44	-13.49	2.68	-2.51
11	144.804	166.920	190.490	14.12	-13.25	2.64	-2.48
12	137.443	158.000	179.816	13.81	-13.01	2.60	-2.45
13	130.508	149.620	169.815	13.50	-12.77	2.56	-2.42
14	123.961	141.730	160.425	13.19	-12.54	2.52	-2.40
15	117.796	134.320	151.630	12.89	-12.30	2.48	-2.36
16	111.965	127.330	143.356	12.59	-12.07	2.44	-2.34
17	106.469	120.760	135.599	12.29	-11.83	2.39	-2.30
18	101.269	114.560	128.299	11.99	-11.60	2.35	-2.28
19	96.359	108.720	121.440	11.70	-11.37	2.31	-2.25
20	91.722	103.220	114.998	11.41	-11.14	2.27	-2.22
21	87.335	98.030	108.934	11.12	-10.91	2.23	-2.18
22	83.183	93.130	103.224	10.84	-10.68	2.18	-2.15
23	79.257	88.510	97.854	10.56	-10.45	2.14	-2.12
24	75.544	84.150	92.799	10.28	-10.23	2.08	-2.07
25	72.000	80.000	88.000	10.00	-10.00	2.07	-2.07
26	68.347	76.130	83.951	10.27	-10.22	2.13	-2.11
27	64.883	72.450	80.091	10.55	-10.44	2.20	-2.17
28	61.614	68.970	76.432	10.82	-10.67	2.27	-2.24
29	58.532	65.680	72.964	11.09	-10.88	2.33	-2.29
30	55.616	62.560	69.667	11.36	-11.10	2.42	-2.36
31	52.875	59.620	66.553	11.63	-11.31	2.49	-2.42
32	50.280	56.830	63.591	11.90	-11.53	2.55	-2.47
33	47.821	54.180	60.771	12.16	-11.74	2.64	-2.54
34	45.507	51.680	58.104	12.43	-11.94	2.71	-2.60
35	43.318	49.310	55.569	12.69	-12.15	2.78	-2.66
36	41.245	47.060	53.158	12.96	-12.36	2.85	-2.72
37	39.278	44.920	50.859	13.22	-12.56	2.94	-2.79
38	37.426	42.900	48.683	13.48	-12.76	3.01	-2.85
39	35.669	40.980	46.611	13.74	-12.96	3.08	-2.90
40	33.998	39.150	44.632	14.00	-13.16	3.17	-2.98
41	32.423	37.420	42.756	14.26	-13.36	3.25	-3.05
42	30.932	35.780	40.974	14.52	-13.55	3.31	-3.09
43	29.509	34.210	39.264	14.77	-13.74	3.41	-3.18
44	28.170	32.730	37.648	15.03	-13.93	3.49	-3.23
45	26.897	31.320	36.106	15.28	-14.12	3.55	-3.28
46	25.681	29.970	34.626	15.53	-14.31	3.67	-3.38
47	24.539	28.700	33.230	15.79	-14.50	3.71	-3.41
48	23.445	27.480	31.887	16.04	-14.68	3.80	-3.48
49	22.407	26.320	30.607	16.29	-14.87	3.90	-3.56
50	21.425	25.220	29.390	16.54	-15.05	3.97	-3.61

R25 = 80KΩ ±10%

B25 / 50 = 4,450K ±5%

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803K-D5-4450JB**NTC Thermistor Specifications**

Temperature °C	Minimum KΩ	Center KΩ	Maximum KΩ	Tolerance [R]		Tolerance [°C]	
				ΔR (%)	-ΔR (%)	ΔT	-ΔT
50	21.425	25.220	29.390	16.54	-15.05	3.97	-3.61
51	20.489	24.170	28.227	16.78	-15.23	4.06	-3.68
52	19.600	23.170	27.116	17.03	-15.41	4.15	-3.76
53	18.757	22.220	26.059	17.28	-15.58	4.22	-3.81
54	17.951	21.310	25.044	17.52	-15.76	4.34	-3.91
55	17.192	20.450	24.083	17.76	-15.93	4.38	-3.93
56	16.460	19.620	23.153	18.01	-16.11	4.47	-4.00
57	15.765	18.830	22.267	18.25	-16.28	4.58	-4.09
58	15.106	18.080	21.423	18.49	-16.45	4.64	-4.13
59	14.475	17.360	20.612	18.73	-16.62	4.78	-4.24
60	13.880	16.680	19.844	18.97	-16.79	4.87	-4.31
61	13.313	16.030	19.109	19.21	-16.95	4.89	-4.31
62	12.764	15.400	18.395	19.45	-17.12	4.99	-4.39
63	12.242	14.800	17.713	19.68	-17.28	5.11	-4.49
64	11.748	14.230	17.064	19.92	-17.44	5.25	-4.60
65	11.280	13.690	16.449	20.15	-17.60	5.31	-4.63
66	10.831	13.170	15.855	20.38	-17.76	5.37	-4.68
67	10.399	12.670	15.282	20.62	-17.92	5.44	-4.73
68	9.986	12.190	14.732	20.85	-18.08	5.65	-4.90
69	9.599	11.740	14.215	21.08	-18.23	5.62	-4.87
70	9.222	11.300	13.708	21.31	-18.39	5.73	-4.95
71	8.862	10.880	13.223	21.54	-18.54	5.86	-5.04
72	8.521	10.480	12.761	21.77	-18.70	6.00	-5.16
73	8.196	10.100	12.321	21.99	-18.85	6.00	-5.14
74	7.881	9.730	11.892	22.22	-19.00	6.18	-5.28
75	7.584	9.380	11.485	22.44	-19.15	6.19	-5.28
76	7.296	9.040	11.089	22.67	-19.30	6.40	-5.45
77	7.025	8.720	10.716	22.89	-19.44	6.44	-5.47
78	6.763	8.410	10.354	23.11	-19.59	6.48	-5.49
79	6.510	8.110	10.003	23.34	-19.73	6.53	-5.52
80	6.265	7.820	9.663	23.56	-19.88	6.82	-5.76
81	6.039	7.550	9.345	23.78	-20.02	6.91	-5.81
82	5.820	7.290	9.039	24.00	-20.16	7.00	-5.88
83	5.611	7.040	8.745	24.21	-20.30	6.82	-5.72
84	5.402	6.790	8.449	24.44	-20.44	7.21	-6.03
85	5.210	6.560	8.177	24.65	-20.58	7.35	-6.14
86	5.027	6.340	7.916	24.87	-20.71	7.17	-5.97
87	4.844	6.120	7.655	25.09	-20.85	7.68	-6.38
88	4.678	5.920	7.417	25.29	-20.99	7.49	-6.21
89	4.512	5.720	7.179	25.51	-21.12	7.68	-6.36
90	4.355	5.530	6.952	25.72	-21.25	7.90	-6.53
91	4.206	5.350	6.737	25.93	-21.38	7.71	-6.36
92	4.057	5.170	6.522	26.15	-21.52	7.95	-6.54
93	3.917	5.000	6.318	26.36	-21.65	8.24	-6.77
94	3.786	4.840	6.126	26.56	-21.78	8.04	-6.59
95	3.655	4.680	5.933	26.78	-21.91	8.35	-6.84
96	3.532	4.530	5.752	26.98	-22.04	8.15	-6.65
97	3.409	4.380	5.571	27.20	-22.17	8.51	-6.94
98	3.295	4.240	5.402	27.40	-22.29	8.94	-7.27
99	3.189	4.110	5.244	27.60	-22.41	8.40	-6.82
100	3.079	3.975	5.081	27.81	-22.54	8.85	-7.17

R25 = 80KΩ ±10%

B25 / 50 = 4,450K ±5%

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803K-D5-4450JB**NTC Thermistor Specifications**

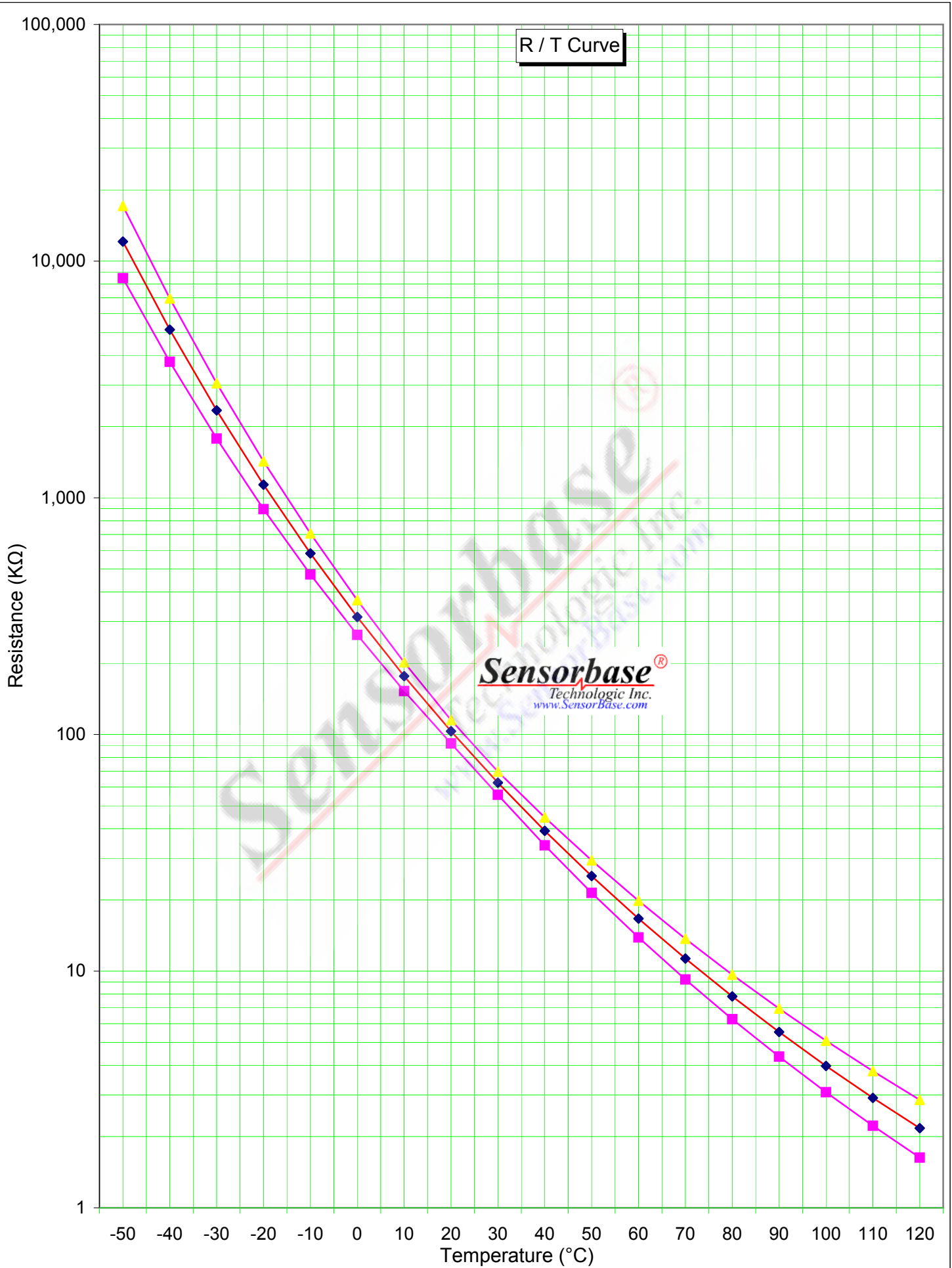
Temperature °C	Minimum KΩ	Center KΩ	Maximum KΩ	Tolerance [R]		Tolerance [°C]	
				ΔR (%)	-ΔR (%)	ΔT	-ΔT
100	3.079	3.975	5.081	27.81	-22.54	8.85	-7.17
101	2.977	3.850	4.929	28.02	-22.67	8.99	-7.27
102	2.880	3.730	4.783	28.22	-22.79	9.57	-7.73
103	2.791	3.620	4.649	28.41	-22.91	9.35	-7.54
104	2.702	3.510	4.514	28.61	-23.02	9.13	-7.35
105	2.613	3.400	4.380	28.82	-23.15	8.91	-7.15
106	2.524	3.290	4.245	29.03	-23.27	9.55	-7.66
107	2.444	3.190	4.122	29.23	-23.39	10.36	-8.29
108	2.371	3.100	4.012	29.41	-23.50	9.12	-7.29
109	2.291	3.000	3.889	29.63	-23.63	10.39	-8.29
110	2.223	2.915	3.783	29.81	-23.74	10.28	-8.19
111	2.155	2.830	3.679	30.00	-23.85	9.43	-7.50
112	2.083	2.740	3.568	30.21	-23.97	10.35	-8.21
113	2.019	2.660	3.469	30.41	-24.08	10.11	-8.01
114	1.956	2.580	3.370	30.61	-24.20	11.28	-8.92
115	1.900	2.510	3.283	30.79	-24.30	11.04	-8.71
116	1.844	2.440	3.196	30.97	-24.41	10.80	-8.51
117	1.789	2.370	3.109	31.16	-24.52	10.55	-8.30
118	1.733	2.300	3.021	31.36	-24.63	10.30	-8.09
119	1.678	2.230	2.934	31.56	-24.75	11.73	-9.20
120	1.631	2.170	2.859	31.74	-24.85	11.48	-8.99
121	1.583	2.110	2.784	31.93	-24.96	11.23	-8.78
122	1.536	2.050	2.708	32.12	-25.07	10.97	-8.56
123	1.489	1.990	2.633	32.31	-25.18	10.72	-8.35
124	1.442	1.930	2.558	32.52	-25.29	12.55	-9.76
125	1.403	1.880	2.495	32.69	-25.39	10.72	-8.35

R25 = 80KΩ ±10%

B25 / 50 = 4,450K ±5%

Specification of NTC Thermistors

8 R / T Curve

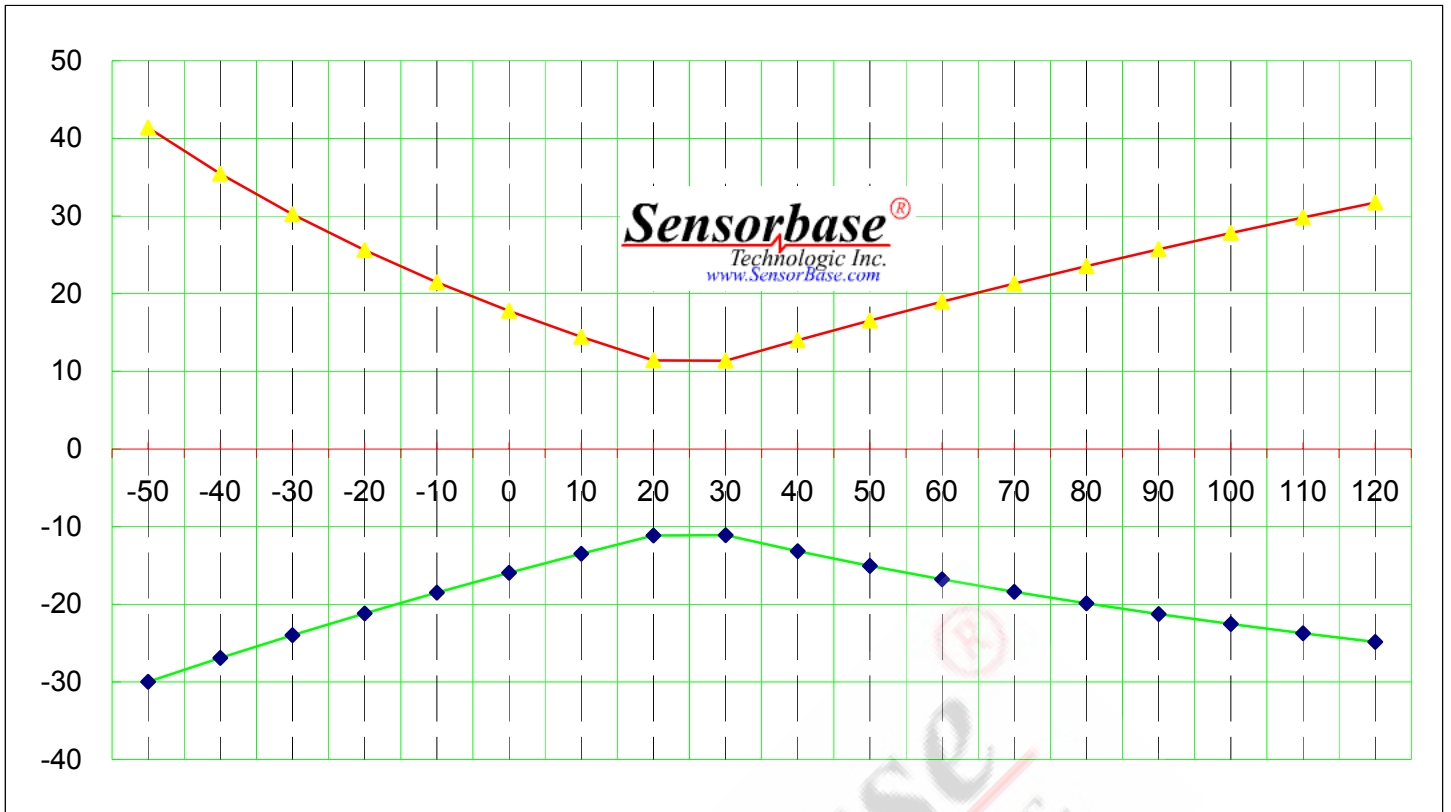


R25 = 80KΩ ±10%

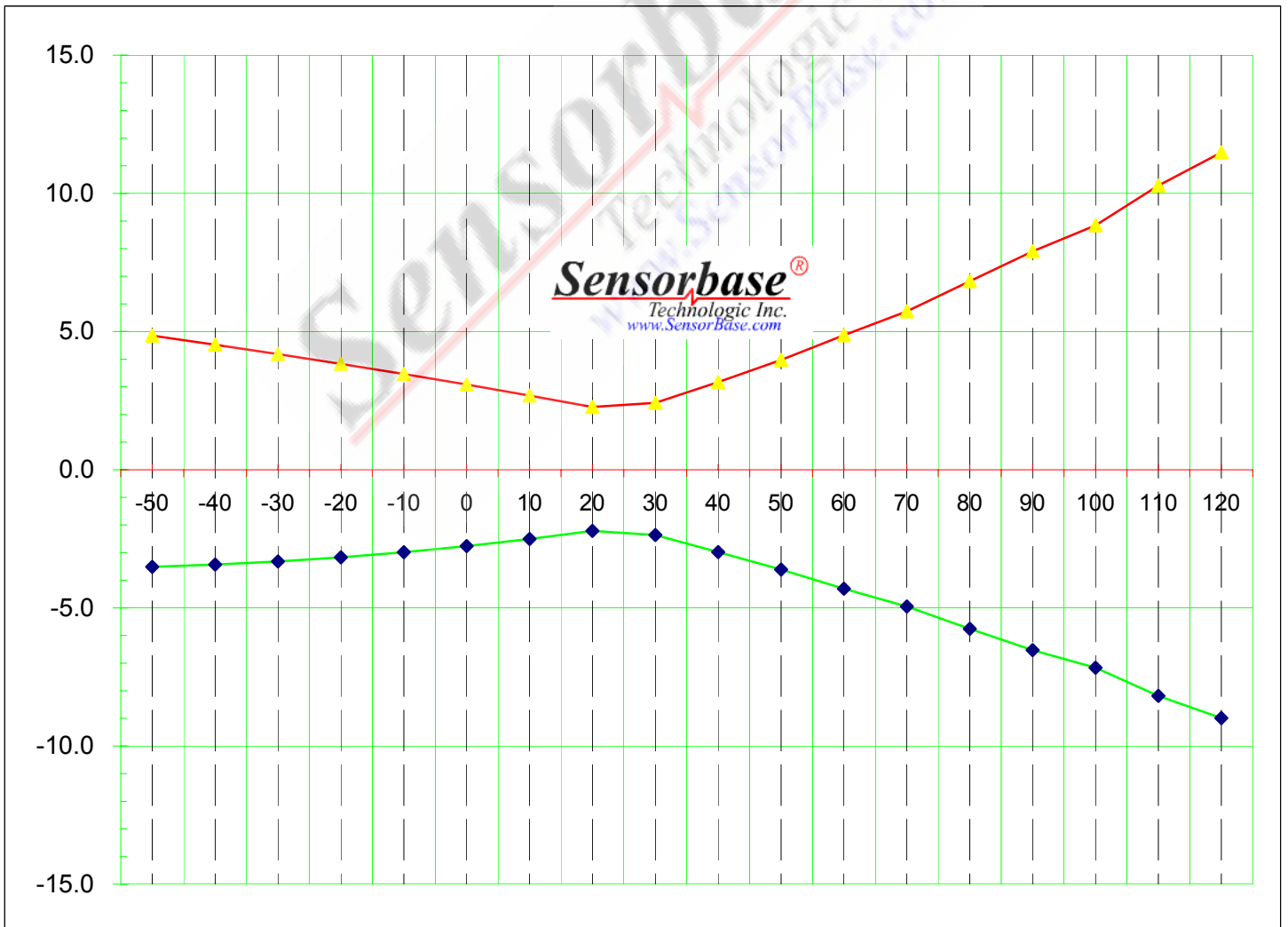
B25 / 50 = 4,450K ±5%

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9 Resistance Tolerance (%)



10 Temperature Tolerance (°C)



R25 = 80KΩ ±10%
 B25 / 50 = 4,450K ±5%

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