

# Approval Data Sheet

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**Customer :**

**Application :**

**Product :** NTC Thermistor

**Model No. :** S7-E 1944

**Drawing No. :**

**Rating :**

**Date :** 23,July ,2012

**Version :** V.1.0



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# THERMISTOR SPECIFICATIONS

## 1) SCOPE

This specifications define ratings, dimension, insulation, climatic tests and mechanical characteristics for AT type temperature sensor.

## 2) PART NO. : S7-E 1944

## 3) RATING

3-1) Rated zero-power resistance  $R_{170}$  : 1.938K $\Omega$   $\pm$ 5% (at 170 $^{\circ}$ C)

3-2) B value.  $B_{100/150}$  : 4,481K  $\pm$ 3%

\*The B value is calculated using the zero-power resistance values measured at 100 $^{\circ}$ C and 150 $^{\circ}$ C.

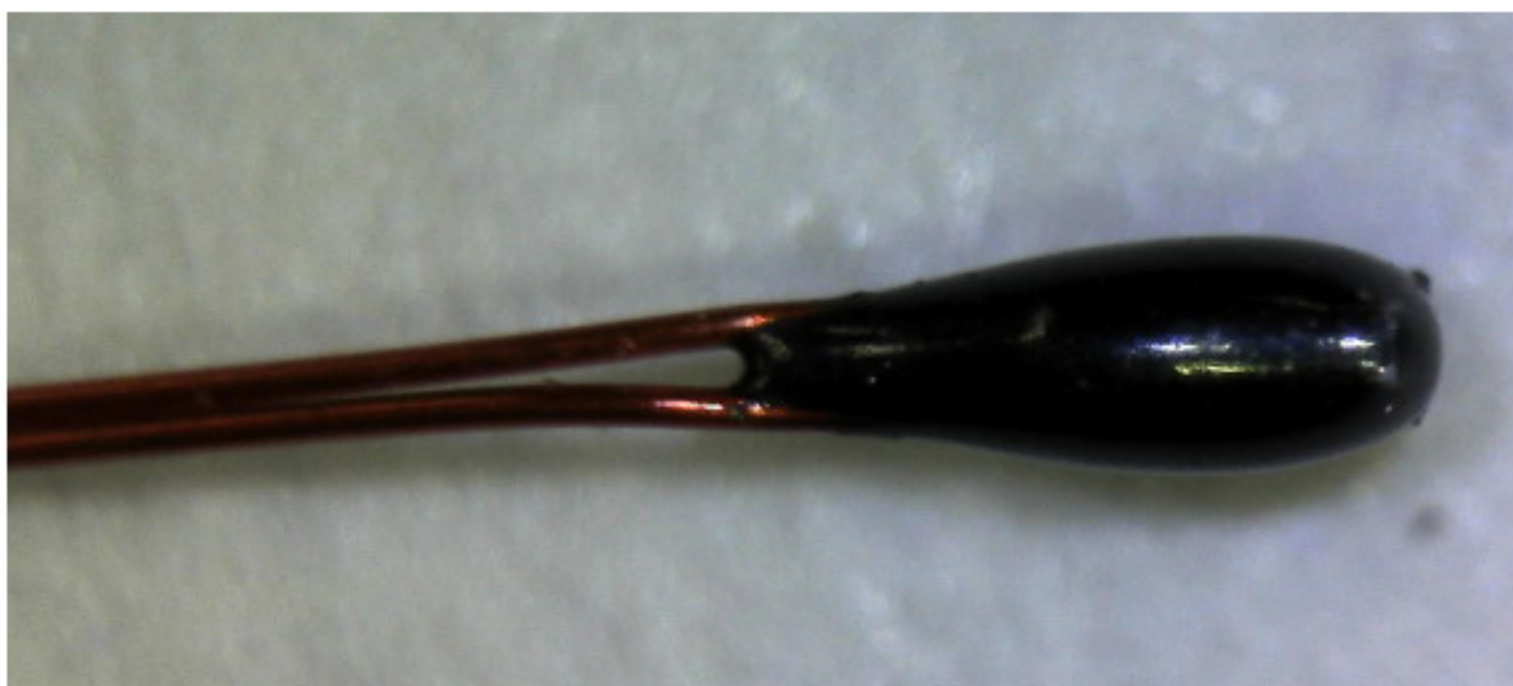
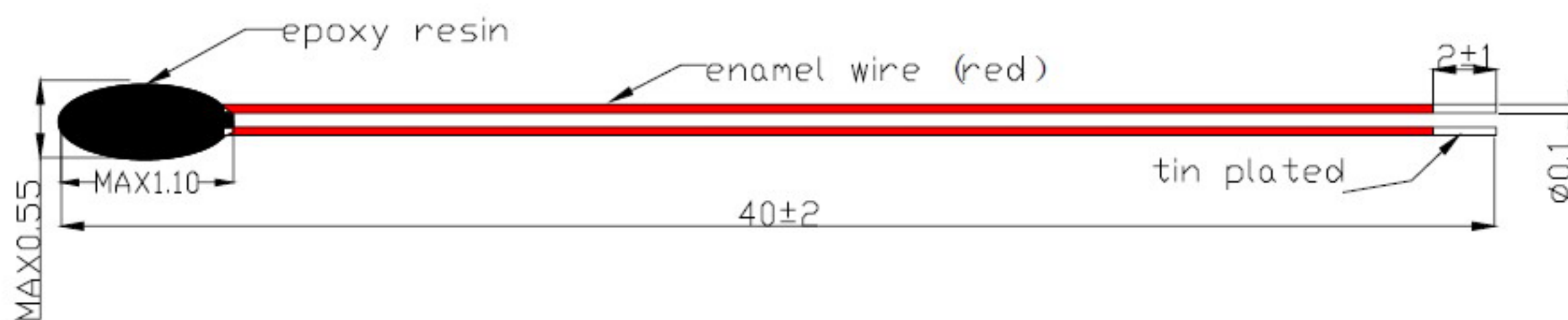
3-3) Dissipation factor. : Approx. 0.3 mW/ $^{\circ}$ C (in still air)

3-4) Thermal time constant. : Approx. 1 s (in still air)

3-5) Maximum power rating. : Approx. 1.5 mW (at 25 $^{\circ}$ C)

3-6) Category temperature range : -20 to 230 $^{\circ}$ C  
(=Operating temperature range)

## 4) DIMENSIONS UNIT: [mm]





## **5) Insulation (between epoxy resin and soldered terminals)**

5-1) Dielectric withstanding voltage: AC 50V for one second.

5-2) Insulation resistance : Above 200 MΩ at DC 100V.

## **6) Climatic tests**

6-1) Damp heat (under loading)

DC 1mA current shall be applied to the test samples in the temperature of 40°C and relative humidity of 95%RH for 1,000 hours. After being stored in room temperature and humidity for one hour, the change ratio of R<sub>25</sub> shall be within ±1% of the initial value.

6-2) Cold

Test samples shall be exposed in air at -30°C for 1,000 hours. After being stored in room temperature and humidity for one hours, the change ratio of R<sub>25</sub> shall be within ±1% of the initial value.

6-3) Rapid change of temperature

One cycle of the change of temperature shall be proceeded in the order of the following conditions.

. At -20°C, for 5 minutes.

. Room ambient temperature, for one minute.

. At + 70°C, for 5 minutes.

. Room ambient temperature, for one minute.

100 cycles of change of temperature shall be applied to the test samples. After being stored in room temperature and humidity for one hour, the change ratio of R<sub>25</sub> shall be within ±1% of the initial value.

## **7) Mechanical Characteristics**

7-1) Robustness of terminations

\* Tensile to horizontal direction

Hold the thermistor body so that lead wire shall be horizontal. After 1 kg loading weight was applied to the lead wire horizontally for 10 seconds, there shall be no visible damage.

7-2) Free fall

After three times natural fall to a maple board from 75cm high, there shall be no visible damage.



# RT-Table

R170= 1.938KΩ ±5% (at 170°C)

B100/150= 4,481K ±3%

Temp. (degC)	ResistanceValue			R Tolerance		Temp.Tolerance		%/deg
	Min.	Std.	Max.	Rmin.%	Rmax.%	Rmin.	Rmax.	
-51	16320.8978	20789.5067	26465.0553	-21.49	27.30			
-50	<b>15163.8157</b>	<b>19280.2955</b>	<b>24498.9436</b>	<b>-21.35</b>	<b>27.07</b>	<b>2.84</b>	<b>-3.60</b>	<b>7.51</b>
-49	14096.3315	17890.5395	22691.8159	-21.21	26.84	2.85	-3.60	7.45
-48	13110.9511	16610.0398	21029.8236	-21.07	26.61	2.85	-3.60	7.40
-47	12200.8518	15429.5292	19500.4071	-20.93	26.38	2.85	-3.59	7.35
-46	11359.8181	14340.5815	18092.1686	-20.79	26.16	2.85	-3.59	7.29
-45	10582.1845	13335.5306	16794.7580	-20.65	25.94	2.85	-3.58	7.24
-44	9862.7836	12407.3975	15598.7706	-20.51	25.72	2.85	-3.58	7.19
-43	9196.8993	11549.8249	14495.6551	-20.37	25.51	2.85	-3.57	7.14
-42	8580.2252	10757.0180	13477.6316	-20.24	25.29	2.86	-3.57	7.09
-41	8008.8264	10023.6919	12537.6175	-20.10	25.08	2.86	-3.56	7.04
-40	7479.1055	<b>9345.0237</b>	11669.1610	<b>-19.97</b>	24.87	2.86	-3.56	6.99
-39	6987.7716	8716.6094	10866.3816	-19.83	24.66	2.86	-3.56	6.94
-38	6531.8127	8134.4256	10123.9161	-19.70	24.46	2.86	-3.55	6.89
-37	6108.4706	7594.7939	9436.8701	-19.57	24.25	2.86	-3.55	6.84
-36	5715.2176	7094.3498	8800.7749	-19.44	24.05	2.86	-3.54	6.79
-35	5349.7366	6630.0143	8211.5475	-19.31	23.85	2.86	-3.54	6.75
-34	5009.9019	6198.9675	7665.4556	-19.18	23.66	2.86	-3.53	6.70
-33	4693.7626	5798.6259	7159.0854	-19.05	23.46	2.86	-3.53	6.65
-32	4399.5274	5426.6213	6689.3126	-18.93	23.27	2.86	-3.52	6.61
-31	4125.5501	5080.7814	6253.2764	-18.80	23.08	2.86	-3.52	6.56
-30	3870.3179	<b>4759.1125</b>	5848.3557	<b>-18.68</b>	22.89	2.87	-3.51	6.52
-29	3632.4390	4459.7842	5472.1479	-18.55	22.70	2.87	-3.51	6.47
-28	3410.6330	4181.1148	5122.4494	-18.43	22.51	2.87	-3.50	6.43
-27	3203.7210	3921.5588	4797.2379	-18.30	22.33	2.87	-3.50	6.39
-26	3010.6170	3679.6946	4494.6567	-18.18	22.15	2.87	-3.49	6.34
-25	2830.3202	3454.2144	4213.0003	-18.06	21.97	2.87	-3.49	6.30
-24	2661.9079	3243.9141	3950.7009	-17.94	21.79	2.87	-3.48	6.26
-23	2504.5289	3047.6850	3706.3172	-17.82	21.61	2.87	-3.47	6.22
-22	2357.3976	2864.5051	3478.5227	-17.70	21.44	2.87	-3.47	6.18
-21	2219.7886	2693.4325	3266.0968	-17.59	21.26	2.87	-3.46	6.14
-20	2091.0318	<b>2533.5983</b>	3067.9151	<b>-17.47</b>	21.09	2.86	-3.46	6.10
-19	1970.5080	2384.2006	2882.9417	-17.35	20.92	2.86	-3.45	6.06
-18	1857.6443	2244.4992	2710.2217	-17.24	20.75	2.86	-3.45	6.02
-17	1751.9112	2113.8102	2548.8742	-17.12	20.58	2.86	-3.44	5.98
-16	1652.8182	1991.5019	2398.0865	-17.01	20.42	2.86	-3.44	5.94
-15	1559.9115	1876.9900	2257.1085	-16.89	20.25	2.86	-3.43	5.90
-14	1472.7705	1769.7341	2125.2471	-16.78	20.09	2.86	-3.43	5.87
-13	1391.0056	1669.2342	2001.8622	-16.67	19.93	2.86	-3.42	5.83
-12	1314.2554	1575.0275	1886.3617	-16.56	19.77	2.86	-3.41	5.79
-11	1242.1849	1486.6850	1778.1982	-16.45	19.61	2.86	-3.41	5.75
-10	1174.4831	<b>1403.8096</b>	1676.8653	<b>-16.34</b>	19.45	2.86	-3.40	5.72
-9	1110.8612	1326.0330	1581.8940	-16.23	19.30	2.86	-3.40	5.68
-8	1051.0513	1253.0137	1492.8500	-16.12	19.14	2.85	-3.39	5.65
-7	994.8043	1184.4347	1409.3311	-16.01	18.99	2.85	-3.38	5.61
-6	941.8886	1120.0019	1330.9644	-15.90	18.84	2.85	-3.38	5.58
-5	892.0889	<b>1059.4422</b>	1257.4040	<b>-15.80</b>	18.69	2.85	-3.37	5.54
-4	845.2051	1002.5019	1188.3292	-15.69	18.54	2.85	-3.37	5.51
-3	801.0508	948.9452	1123.4422	-15.59	18.39	2.85	-3.36	5.47
-2	759.4524	898.5529	1062.4666	-15.48	18.24	2.85	-3.35	5.44
-1	720.2484	851.1212	1005.1456	-15.38	18.10	2.84	-3.35	5.41
0	683.2883	<b>806.4602</b>	951.2406	<b>-15.27</b>	17.95	2.84	-3.34	5.37
1	648.4317	764.3934	900.5299	-15.17	17.81	2.84	-3.33	5.34
2	615.5478	724.7565	852.8072	-15.07	17.67	2.84	-3.33	5.31
3	584.5146	687.3961	807.8806	-14.97	17.53	2.84	-3.32	5.28
4	555.2183	652.1695	765.5714	-14.87	17.39	2.83	-3.32	5.24



# RT-Table

R170= 1.938KΩ ±5% (at 170°C)

B100/150= 4,481K ±3%

Temp. (degC)	ResistanceValue			R Tolerance		Temp.Tolerance		% /deg
	Min.	Std.	Max.	Rmin.%	Rmax.%	Rmin.	Rmax.	
5	527.5524	618.9437	725.7135	-14.77	17.25	2.83	-3.31	5.21
6	501.4178	587.5946	688.1519	-14.67	17.11	2.83	-3.30	5.18
7	476.7218	558.0063	652.7422	-14.57	16.98	2.83	-3.30	5.15
8	453.3777	530.0708	619.3500	-14.47	16.84	2.83	-3.29	5.12
9	431.3045	503.6872	587.8499	-14.37	16.71	2.82	-3.28	5.09
10	410.4264	478.7613	558.1246	-14.27	16.58	2.82	-3.28	5.06
11	390.6726	455.2049	530.0652	-14.18	16.45	2.82	-3.27	5.03
12	371.9768	432.9358	503.5696	-14.08	16.32	2.82	-3.26	5.00
13	354.2770	411.8770	478.5426	-13.98	16.19	2.81	-3.26	4.97
14	337.5149	391.9566	454.8953	-13.89	16.06	2.81	-3.25	4.94
15	321.6362	373.1072	432.5445	-13.80	15.93	2.81	-3.24	4.91
16	306.5897	355.2657	411.4126	-13.70	15.80	2.80	-3.23	4.89
17	292.3278	338.3733	391.4268	-13.61	15.68	2.80	-3.23	4.86
18	278.8054	322.3746	372.5193	-13.52	15.55	2.80	-3.22	4.83
19	265.9806	307.2177	354.6263	-13.42	15.43	2.80	-3.21	4.80
20	253.8139	292.8542	337.6884	-13.33	15.31	2.79	-3.21	4.77
21	242.2682	279.2386	321.6496	-13.24	15.19	2.79	-3.20	4.75
22	231.3087	266.3282	306.4579	-13.15	15.07	2.79	-3.19	4.72
23	220.9028	254.0829	292.0642	-13.06	14.95	2.78	-3.18	4.69
24	211.0197	242.4652	278.4226	-12.97	14.83	2.78	-3.18	4.67
25	201.6306	231.4398	265.4901	-12.88	14.71	2.78	-3.17	4.64
26	192.7083	220.9736	253.2262	-12.79	14.60	2.77	-3.16	4.61
27	184.2274	211.0354	241.5932	-12.70	14.48	2.77	-3.16	4.59
28	176.1639	201.5960	230.5554	-12.62	14.37	2.76	-3.15	4.56
29	168.4951	192.6279	220.0795	-12.53	14.25	2.76	-3.14	4.54
30	161.1999	184.1054	210.1341	-12.44	14.14	2.76	-3.13	4.51
31	154.2582	176.0040	200.6898	-12.36	14.03	2.75	-3.13	4.49
32	147.6512	168.3009	191.7188	-12.27	13.91	2.75	-3.12	4.46
33	141.3610	160.9747	183.1951	-12.18	13.80	2.75	-3.11	4.44
34	135.3711	154.0050	175.0943	-12.10	13.69	2.74	-3.10	4.41
35	129.6656	147.3728	167.3933	-12.02	13.58	2.74	-3.09	4.39
36	124.2297	141.0601	160.0705	-11.93	13.48	2.73	-3.09	4.37
37	119.0493	135.0500	153.1055	-11.85	13.37	2.73	-3.08	4.34
38	114.1112	129.3265	146.4790	-11.77	13.26	2.72	-3.07	4.32
39	109.4029	123.8746	140.1730	-11.68	13.16	2.72	-3.06	4.30
40	104.9126	118.6801	134.1705	-11.60	13.05	2.72	-3.06	4.27
41	100.6292	113.7297	128.4554	-11.52	12.95	2.71	-3.05	4.25
42	96.5422	109.0107	123.0126	-11.44	12.84	2.71	-3.04	4.23
43	92.6417	104.5112	117.8278	-11.36	12.74	2.70	-3.03	4.20
44	88.9183	100.2200	112.8876	-11.28	12.64	2.70	-3.02	4.18
45	85.3630	96.1264	108.1792	-11.20	12.54	2.69	-3.01	4.16
46	81.9676	92.2204	103.6908	-11.12	12.44	2.69	-3.01	4.14
47	78.7241	88.4926	99.4110	-11.04	12.34	2.68	-3.00	4.12
48	75.6250	84.9339	95.3291	-10.96	12.24	2.68	-2.99	4.09
49	72.6632	81.5360	91.4351	-10.88	12.14	2.67	-2.98	4.07
50	69.8320	78.2908	87.7194	-10.80	12.04	2.67	-2.97	4.05
51	67.1250	75.1908	84.1730	-10.73	11.95	2.66	-2.96	4.03
52	64.5362	72.2287	80.7875	-10.65	11.85	2.66	-2.96	4.01
53	62.0599	69.3978	77.5548	-10.57	11.75	2.65	-2.95	3.99
54	59.6907	66.6917	74.4673	-10.50	11.66	2.65	-2.94	3.97
55	57.4235	64.1044	71.5178	-10.42	11.56	2.64	-2.93	3.95
56	55.2534	61.6300	68.6996	-10.35	11.47	2.64	-2.92	3.93
57	53.1758	59.2632	66.0061	-10.27	11.38	2.63	-2.91	3.91
58	51.1864	56.9987	63.4313	-10.20	11.29	2.62	-2.90	3.89



# RT-Table

R170= 1.938KΩ ±5% (at 170°C)

B100/150= 4,481K ±3%

Temp. (degC)	Resistance Value			R Tolerance		Temp. Tolerance		% / deg
	Min.	Std.	Max.	Rmin. %	Rmax. %	Rmin.	Rmax.	
59	49.2810	54.8316	60.9694	-10.12	11.19	2.62	-2.90	3.87
60	47.4557	52.7575	58.6149	-10.05	11.10	2.61	-2.89	3.85
61	45.7067	50.7717	56.3627	-9.98	11.01	2.61	-2.88	3.83
62	44.0306	48.8702	54.2079	-9.90	10.92	2.60	-2.87	3.81
63	42.4240	47.0491	52.1458	-9.83	10.83	2.60	-2.86	3.79
64	40.8836	45.3045	50.1721	-9.76	10.74	2.59	-2.85	3.77
65	39.4065	43.6329	48.2825	-9.69	10.66	2.58	-2.84	3.75
66	37.9897	42.0309	46.4730	-9.61	10.57	2.58	-2.83	3.73
67	36.6306	40.4954	44.7400	-9.54	10.48	2.57	-2.82	3.71
68	35.3266	39.0232	43.0798	-9.47	10.40	2.56	-2.81	3.69
69	34.0751	37.6115	41.4891	-9.40	10.31	2.56	-2.80	3.68
70	32.8738	36.2575	39.9646	-9.33	10.22	2.55	-2.80	3.66
71	31.7205	34.9587	38.5033	-9.26	10.14	2.55	-2.79	3.64
72	30.6130	33.7124	37.1023	-9.19	10.06	2.54	-2.78	3.62
73	29.5494	32.5164	35.7589	-9.12	9.97	2.53	-2.77	3.60
74	28.5277	31.3684	34.4704	-9.06	9.89	2.53	-2.76	3.59
75	27.5461	30.2663	33.2344	-8.99	9.81	2.52	-2.75	3.57
76	26.6028	29.2081	32.0484	-8.92	9.72	2.51	-2.74	3.55
77	25.6962	28.1917	30.9103	-8.85	9.64	2.51	-2.73	3.53
78	24.8247	27.2155	29.8179	-8.78	9.56	2.50	-2.72	3.52
79	23.9867	26.2775	28.7691	-8.72	9.48	2.49	-2.71	3.50
80	23.1809	25.3762	27.7621	-8.65	9.40	2.48	-2.70	3.48
81	22.4058	24.5099	26.7949	-8.58	9.32	2.48	-2.69	3.46
82	21.6602	23.6772	25.8659	-8.52	9.24	2.47	-2.68	3.45
83	20.9428	22.8766	24.9734	-8.45	9.17	2.46	-2.67	3.43
84	20.2525	22.1068	24.1157	-8.39	9.09	2.46	-2.66	3.42
85	19.5880	21.3663	23.2915	-8.32	9.01	2.45	-2.65	3.40
86	18.9484	20.6540	22.4991	-8.26	8.93	2.44	-2.64	3.38
87	18.3325	19.9687	21.7373	-8.19	8.86	2.43	-2.63	3.37
88	17.7395	19.3092	21.0048	-8.13	8.78	2.43	-2.62	3.35
89	17.1683	18.6745	20.3003	-8.07	8.71	2.42	-2.61	3.33
90	16.6180	18.0635	19.6225	-8.00	8.63	2.41	-2.60	3.32
91	16.0879	17.4753	18.9705	-7.94	8.56	2.40	-2.59	3.30
92	15.5770	16.9089	18.3431	-7.88	8.48	2.40	-2.58	3.29
93	15.0847	16.3633	17.7392	-7.81	8.41	2.39	-2.57	3.27
94	14.6101	15.8378	17.1579	-7.75	8.34	2.38	-2.56	3.26
95	14.1526	15.3315	16.5983	-7.69	8.26	2.37	-2.55	3.24
96	13.7114	14.8437	16.0594	-7.63	8.19	2.36	-2.54	3.23
97	13.2859	14.3735	15.5404	-7.57	8.12	2.36	-2.53	3.21
98	12.8755	13.9203	15.0405	-7.51	8.05	2.35	-2.52	3.20
99	12.4796	13.4835	14.5589	-7.44	7.98	2.34	-2.51	3.18
100	12.0977	13.0622	14.0949	-7.38	7.91	2.33	-2.50	3.17
101	11.7290	12.6560	13.6477	-7.32	7.84	2.32	-2.49	3.15
102	11.3733	12.2642	13.2166	-7.26	7.77	2.32	-2.48	3.14
103	11.0299	11.8862	12.8011	-7.20	7.70	2.31	-2.46	3.12
104	10.6983	11.5216	12.4004	-7.15	7.63	2.30	-2.45	3.11
105	10.3782	11.1697	12.0140	-7.09	7.56	2.29	-2.44	3.09
106	10.0690	10.8301	11.6414	-7.03	7.49	2.28	-2.43	3.08
107	9.7704	10.5023	11.2820	-6.97	7.42	2.27	-2.42	3.07
108	9.4820	10.1859	10.9352	-6.91	7.36	2.26	-2.41	3.05
109	9.2033	9.8803	10.6006	-6.85	7.29	2.26	-2.40	3.04
110	8.9340	9.5853	10.2776	-6.79	7.22	2.25	-2.39	3.02
111	8.6737	9.3003	9.9659	-6.74	7.16	2.24	-2.38	3.01
112	8.4222	9.0251	9.6650	-6.68	7.09	2.23	-2.37	3.00
113	8.1790	8.7591	9.3745	-6.62	7.03	2.22	-2.35	2.98
114	7.9439	8.5022	9.0940	-6.57	6.96	2.21	-2.34	2.97
115	7.7165	8.2539	8.8231	-6.51	6.90	2.20	-2.33	2.96



# RT-Table

R170= 1.938KΩ ±5% (at 170°C)

B100/150= 4,481K ±3%

Temp. (degC)	Resistance Value			R Tolerance		Temp. Tolerance		% / deg
	Min.	Std.	Max.	Rmin. %	Rmax. %	Rmin.	Rmax.	
116	7.4967	8.0138	8.5614	-6.45	6.83	2.19	-2.32	2.94
117	7.2840	7.7818	8.3086	-6.40	6.77	2.18	-2.31	2.93
118	7.0782	7.5576	8.0643	-6.34	6.70	2.17	-2.30	2.92
119	6.8792	7.3407	7.8282	-6.29	6.64	2.16	-2.29	2.91
120	6.6866	7.1309	7.6001	-6.23	6.58	2.15	-2.27	2.89
121	6.5002	6.9281	7.3796	-6.18	6.52	2.15	-2.26	2.88
122	6.3197	6.7319	7.1664	-6.12	6.45	2.14	-2.25	2.87
123	6.1451	6.5420	6.9603	-6.07	6.39	2.13	-2.24	2.85
124	5.9760	6.3583	6.7609	-6.01	6.33	2.12	-2.23	2.84
125	5.8123	6.1806	6.5681	-5.96	6.27	2.11	-2.22	2.83
126	5.6537	6.0085	6.3817	-5.91	6.21	2.10	-2.20	2.82
127	5.5001	5.8420	6.2013	-5.85	6.15	2.09	-2.19	2.80
128	5.3514	5.6808	6.0267	-5.80	6.09	2.08	-2.18	2.79
129	5.2072	5.5247	5.8578	-5.75	6.03	2.07	-2.17	2.78
130	5.0676	5.3735	5.6944	-5.69	5.97	2.06	-2.16	2.77
131	4.9323	5.2271	5.5361	-5.64	5.91	2.05	-2.14	2.76
132	4.8011	5.0853	5.3830	-5.59	5.85	2.04	-2.13	2.74
133	4.6740	4.9480	5.2347	-5.54	5.79	2.03	-2.12	2.73
134	4.5508	4.8149	5.0911	-5.48	5.74	2.02	-2.11	2.72
135	4.4313	4.6859	4.9520	-5.43	5.68	2.01	-2.10	2.71
136	4.3155	4.5609	4.8173	-5.38	5.62	1.99	-2.08	2.70
137	4.2032	4.4398	4.6869	-5.33	5.56	1.98	-2.07	2.69
138	4.0942	4.3224	4.5604	-5.28	5.51	1.97	-2.06	2.67
139	3.9885	4.2086	4.4380	-5.23	5.45	1.96	-2.05	2.66
140	3.8860	4.0982	4.3193	-5.18	5.39	1.95	-2.03	2.65
141	3.7865	3.9912	4.2043	-5.13	5.34	1.94	-2.02	2.64
142	3.6900	3.8874	4.0928	-5.08	5.28	1.93	-2.01	2.63
143	3.5963	3.7867	3.9847	-5.03	5.23	1.92	-2.00	2.62
144	3.5054	3.6891	3.8799	-4.98	5.17	1.91	-1.98	2.61
145	3.4172	3.5943	3.7783	-4.93	5.12	1.90	-1.97	2.60
146	3.3315	3.5024	3.6797	-4.88	5.06	1.89	-1.96	2.59
147	3.2483	3.4132	3.5842	-4.83	5.01	1.88	-1.95	2.57
148	3.1675	3.3266	3.4915	-4.78	4.96	1.87	-1.93	2.56
149	3.0891	3.2426	3.4015	-4.73	4.90	1.85	-1.92	2.55
<b>150</b>	<b>3.0129</b>	<b>3.1610</b>	<b>3.3143</b>	<b>-4.68</b>	<b>4.85</b>	<b>1.84</b>	<b>-1.91</b>	<b>2.54</b>
151	2.9389	3.0818	3.2296	-4.64	4.80	1.83	-1.89	2.53
152	2.8671	3.0049	3.1475	-4.59	4.74	1.82	-1.88	2.52
153	2.7972	2.9303	3.0677	-4.54	4.69	1.81	-1.87	2.51
154	2.7294	2.8578	2.9903	-4.49	4.64	1.80	-1.86	2.50
155	2.6634	2.7873	2.9152	-4.45	4.59	1.79	-1.84	2.49
156	2.5993	2.7189	2.8422	-4.40	4.54	1.77	-1.83	2.48
157	2.5370	2.6524	2.7714	-4.35	4.48	1.76	-1.82	2.47
158	2.4765	2.5879	2.7026	-4.30	4.43	1.75	-1.80	2.46
159	2.4176	2.5251	2.6358	-4.26	4.38	1.74	-1.79	2.45
160	2.3604	2.4641	2.5709	-4.21	4.33	1.73	-1.78	2.44
161	2.3047	2.4049	2.5078	-4.17	4.28	1.71	-1.76	2.43
162	2.2506	2.3473	2.4466	-4.12	4.23	1.70	-1.75	2.42
163	2.1979	2.2913	2.3871	-4.07	4.18	1.69	-1.74	2.41
164	2.1467	2.2368	2.3292	-4.03	4.13	1.68	-1.72	2.40
165	2.0969	2.1839	2.2730	-3.98	4.08	1.67	-1.71	2.39
166	2.0484	2.1324	2.2184	-3.94	4.03	1.65	-1.69	2.38
167	2.0013	2.0823	2.1653	-3.89	3.98	1.64	-1.68	2.37
168	1.9554	2.0336	2.1137	-3.85	3.94	1.63	-1.67	2.36
169	1.9107	1.9863	2.0635	-3.80	3.89	1.62	-1.65	2.35
<b>170</b>	<b>1.8673</b>	<b>1.9402</b>	<b>2.0147</b>	<b>-3.76</b>	<b>3.84</b>	<b>1.60</b>	<b>-1.64</b>	<b>2.34</b>
171	1.8250	1.8953	1.9672	-3.71	3.79	1.59	-1.63	2.33
172	1.7838	1.8517	1.9210	-3.67	3.74	1.58	-1.61	2.32
173	1.7437	1.8093	1.8761	-3.63	3.70	1.57	-1.60	2.31
174	1.7046	1.7680	1.8325	-3.58	3.65	1.55	-1.58	2.31
175	1.6666	1.7277	1.7900	-3.54	3.60	1.54	-1.57	2.30



# RT-Table

R170= 1.938KΩ ±5% (at 170°C)

B100/150= 4,481K ±3%

Temp. (degC)	ResistanceValue			R Tolerance		Temp.Tolerance		% /deg
	Min.	Std.	Max.	Rmin.%	Rmax.%	Rmin.	Rmax.	
176	1.6296	1.6886	1.7486	-3.49	3.56	1.53	-1.55	2.29
177	1.5935	1.6505	1.7084	-3.45	3.51	1.51	-1.54	2.28
178	1.5584	1.6134	1.6693	-3.41	3.46	1.50	-1.53	2.27
179	1.5242	1.5773	1.6312	-3.36	3.42	1.49	-1.51	2.26
180	1.4909	1.5421	1.5941	-3.32	3.37	1.48	-1.50	2.25
181	1.4584	1.5078	1.5580	-3.28	3.33	1.46	-1.48	2.24
182	1.4267	1.4744	1.5228	-3.24	3.28	1.45	-1.47	2.23
183	1.3959	1.4419	1.4886	-3.19	3.24	1.44	-1.45	2.22
184	1.3658	1.4103	1.4553	-3.15	3.19	1.42	-1.44	2.22
185	1.3365	1.3794	1.4228	-3.11	3.15	1.41	-1.43	2.21
186	1.3080	1.3494	1.3912	-3.07	3.10	1.40	-1.41	2.20
187	1.2801	1.3201	1.3604	-3.03	3.06	1.38	-1.40	2.19
188	1.2530	1.2915	1.3304	-2.99	3.01	1.37	-1.38	2.18
189	1.2265	1.2637	1.3012	-2.94	2.97	1.35	-1.37	2.17
190	1.2007	1.2366	1.2728	-2.90	2.93	1.34	-1.35	2.16
191	1.1755	1.2102	1.2450	-2.86	2.88	1.33	-1.34	2.16
192	1.1510	1.1844	1.2180	-2.82	2.84	1.31	-1.32	2.15
193	1.1270	1.1593	1.1917	-2.78	2.80	1.30	-1.31	2.14
194	1.1037	1.1348	1.1660	-2.74	2.75	1.29	-1.29	2.13
195	1.0809	1.1109	1.1410	-2.70	2.71	1.27	-1.28	2.12
196	1.0587	1.0876	1.1166	-2.66	2.67	1.26	-1.26	2.12
197	1.0370	1.0649	1.0928	-2.62	2.63	1.24	-1.25	2.11
198	1.0158	1.0427	1.0696	-2.58	2.58	1.23	-1.23	2.10
199	0.9952	1.0211	1.0470	-2.54	2.54	1.21	-1.22	2.09
<b>200</b>	<b>0.9750</b>	<b>1.0000</b>	<b>1.0250</b>	<b>-2.50</b>	<b>2.50</b>	<b>1.20</b>	<b>-1.20</b>	<b>2.08</b>
201	0.9546	0.9794	1.0043	-2.54	2.54	1.22	-1.22	2.08
202	0.9346	0.9593	0.9841	-2.58	2.58	1.25	-1.25	2.07
203	0.9151	0.9398	0.9644	-2.62	2.62	1.27	-1.27	2.06
204	0.8962	0.9206	0.9452	-2.66	2.66	1.29	-1.30	2.05
205	0.8777	0.9020	0.9264	-2.70	2.71	1.32	-1.32	2.04
206	0.8596	0.8838	0.9080	-2.73	2.75	1.34	-1.35	2.04
207	0.8420	0.8660	0.8901	-2.77	2.79	1.37	-1.37	2.03
208	0.8248	0.8486	0.8726	-2.81	2.83	1.39	-1.40	2.02
209	0.8080	0.8317	0.8555	-2.85	2.87	1.41	-1.42	2.01
210	0.7916	0.8151	0.8388	-2.89	2.91	1.44	-1.45	2.01
211	0.7756	0.7990	0.8225	-2.92	2.95	1.46	-1.47	2.00
212	0.7600	0.7832	0.8066	-2.96	2.99	1.49	-1.50	1.99
213	0.7447	0.7678	0.7910	-3.00	3.03	1.51	-1.53	1.98
214	0.7299	0.7527	0.7758	-3.04	3.07	1.54	-1.55	1.98
215	0.7153	0.7380	0.7609	-3.07	3.11	1.56	-1.58	1.97
216	0.7012	0.7237	0.7464	-3.11	3.15	1.59	-1.60	1.96
217	0.6873	0.7096	0.7322	-3.15	3.18	1.61	-1.63	1.95
218	0.6738	0.6959	0.7183	-3.18	3.22	1.63	-1.66	1.95
219	0.6606	0.6825	0.7048	-3.22	3.26	1.66	-1.68	1.94
220	0.6476	0.6694	0.6915	-3.26	3.30	1.68	-1.71	1.93
221	0.6350	0.6566	0.6786	-3.29	3.34	1.71	-1.73	1.93
222	0.6227	0.6441	0.6659	-3.33	3.38	1.73	-1.76	1.92
223	0.6107	0.6319	0.6535	-3.36	3.42	1.76	-1.79	1.91
224	0.5989	0.6200	0.6414	-3.40	3.45	1.78	-1.81	1.90
225	0.5874	0.6083	0.6295	-3.43	3.49	1.81	-1.84	1.90
226	0.5762	0.5969	0.6180	-3.47	3.53	1.84	-1.87	1.89
227	0.5652	0.5857	0.6066	-3.50	3.57	1.86	-1.89	1.88
228	0.5545	0.5748	0.5955	-3.54	3.60	1.89	-1.92	1.88
229	0.5440	0.5642	0.5847	-3.57	3.64	1.91	-1.95	1.87
230	0.5337	0.5537	0.5741	-3.61	3.68	1.94	-1.97	1.86
231	0.5237	0.5435	0.5637	-3.64	3.72	1.96	-2.00	1.86
232	0.5139	0.5335	0.5536	-3.68	3.75	1.99	-2.03	1.85
233	0.5043	0.5238	0.5436	-3.71	3.79	2.01	-2.06	1.84
234	0.4950	0.5142	0.5339	-3.75	3.83	2.04	-2.08	1.84
235	0.4858	0.5049	0.5244	-3.78	3.86	2.07	-2.11	1.83



# RT-Table

R170= 1.938KΩ ±5% (at 170°C)

B100/150= 4,481K ±3%

Temp. (degC)	Resistance Value			R Tolerance		Temp. Tolerance		% / deg
	Min.	Std.	Max.	Rmin. %	Rmax. %	Rmin.	Rmax.	
236	0.4769	0.4958	0.5151	-3.81	3.90	2.09	-2.14	1.82
237	0.4681	0.4868	0.5060	-3.85	3.94	2.12	-2.17	1.82
238	0.4595	0.4781	0.4971	-3.88	3.97	2.14	-2.19	1.81
239	0.4511	0.4695	0.4883	-3.91	4.01	2.17	-2.22	1.80
240	0.4429	0.4611	0.4798	-3.95	4.04	2.20	-2.25	1.80
241	0.4349	0.4529	0.4714	-3.98	4.08	2.22	-2.28	1.79
242	0.4271	0.4449	0.4632	-4.01	4.12	2.25	-2.31	1.78
243	0.4194	0.4371	0.4552	-4.05	4.15	2.28	-2.33	1.78
244	0.4119	0.4294	0.4473	-4.08	4.19	2.30	-2.36	1.77
245	0.4045	0.4218	0.4397	-4.11	4.22	2.33	-2.39	1.77
246	0.3973	0.4145	0.4321	-4.14	4.26	2.36	-2.42	1.76
247	0.3903	0.4073	0.4247	-4.18	4.29	2.38	-2.45	1.75
248	0.3834	0.4002	0.4175	-4.21	4.33	2.41	-2.48	1.75
249	0.3766	0.3933	0.4104	-4.24	4.36	2.44	-2.51	1.74
250	0.3700	0.3865	0.4035	-4.27	4.40	2.46	-2.53	1.73
251	0.3635	0.3799	0.3967	-4.30	4.43	2.49	-2.56	1.73
252	0.3572	0.3734	0.3900	-4.33	4.47	2.52	-2.59	1.72
253	0.3510	0.3670	0.3835	-4.37	4.50	2.54	-2.62	1.72
254	0.3449	0.3608	0.3771	-4.40	4.53	2.57	-2.65	1.71
255	0.3390	0.3547	0.3709	-4.43	4.57	2.60	-2.68	1.70
256	0.3331	0.3487	0.3647	-4.46	4.60	2.63	-2.71	1.70
257	0.3274	0.3428	0.3587	-4.49	4.64	2.65	-2.74	1.69
258	0.3218	0.3371	0.3528	-4.52	4.67	2.68	-2.77	1.69
259	0.3164	0.3315	0.3470	-4.55	4.70	2.71	-2.80	1.68
260	0.3110	0.3259	0.3414	-4.58	4.74	2.74	-2.83	1.67
261	0.3058	0.3205	0.3358	-4.61	4.77	2.76	-2.86	1.67
262	0.3006	0.3152	0.3304	-4.64	4.80	2.79	-2.89	1.66
263	0.2956	0.3101	0.3250	-4.67	4.84	2.82	-2.92	1.66
264	0.2906	0.3050	0.3198	-4.70	4.87	2.85	-2.95	1.65
265	0.2858	0.3000	0.3147	-4.73	4.90	2.88	-2.98	1.65
266	0.2810	0.2951	0.3097	-4.76	4.93	2.90	-3.01	1.64
267	0.2764	0.2903	0.3047	-4.79	4.97	2.93	-3.04	1.63
268	0.2718	0.2856	0.2999	-4.82	5.00	2.96	-3.07	1.63
269	0.2674	0.2810	0.2951	-4.85	5.03	2.99	-3.10	1.62
270	0.2630	0.2765	0.2905	-4.88	5.06	3.02	-3.13	1.62
271	0.2587	0.2720	0.2859	-4.91	5.10	3.05	-3.16	1.61
272	0.2545	0.2677	0.2814	-4.94	5.13	3.07	-3.19	1.61
273	0.2504	0.2634	0.2770	-4.97	5.16	3.10	-3.22	1.60
274	0.2463	0.2593	0.2727	-5.00	5.19	3.13	-3.25	1.60
275	0.2423	0.2552	0.2685	-5.03	5.23	3.16	-3.29	1.59
276	0.2385	0.2511	0.2644	-5.05	5.26	3.19	-3.32	1.58
277	0.2346	0.2472	0.2603	-5.08	5.29	3.22	-3.35	1.58
278	0.2309	0.2433	0.2563	-5.11	5.32	3.25	-3.38	1.57
279	0.2272	0.2395	0.2524	-5.14	5.35	3.28	-3.41	1.57
280	0.2236	0.2358	0.2485	-5.17	5.38	3.30	-3.44	1.56
281	0.2201	0.2322	0.2447	-5.20	5.41	3.33	-3.47	1.56
282	0.2166	0.2286	0.2410	-5.22	5.45	3.36	-3.51	1.55
283	0.2133	0.2251	0.2374	-5.25	5.48	3.39	-3.54	1.55
284	0.2099	0.2216	0.2338	-5.28	5.51	3.42	-3.57	1.54
285	0.2067	0.2182	0.2303	-5.31	5.54	3.45	-3.60	1.54
286	0.2034	0.2149	0.2269	-5.33	5.57	3.48	-3.63	1.53
287	0.2003	0.2116	0.2235	-5.36	5.60	3.51	-3.67	1.53
288	0.1972	0.2084	0.2202	-5.39	5.63	3.54	-3.70	1.52
289	0.1942	0.2053	0.2169	-5.42	5.66	3.57	-3.73	1.52
290	0.1912	0.2022	0.2137	-5.44	5.69	3.60	-3.76	1.51
291	0.1883	0.1992	0.2106	-5.47	5.72	3.63	-3.80	1.51
292	0.1854	0.1962	0.2075	-5.50	5.75	3.66	-3.83	1.50
293	0.1826	0.1933	0.2045	-5.52	5.78	3.69	-3.86	1.50
294	0.1799	0.1904	0.2015	-5.55	5.81	3.72	-3.89	1.49
295	0.1771	0.1876	0.1986	-5.58	5.84	3.75	-3.93	1.49



# RT-Table

R170= 1.938K $\Omega$   $\pm$ 5% (at 170°C)

B100/150= 4,481K  $\pm$ 3%

Temp. (degC)	ResistanceValue			R Tolerance		Temp.Tolerance		
	Min.	Std.	Max.	Rmin.%	Rmax.%	Rmin.	Rmax.	%/deg
296	0.1745	0.1848	0.1957	-5.60	5.87	3.78	-3.96	1.48
297	0.1719	0.1821	0.1929	-5.63	5.90	3.81	-3.99	1.48
298	0.1693	0.1795	0.1901	-5.66	5.93	3.84	-4.03	1.47
299	0.1668	0.1768	0.1874	-5.68	5.96	3.87	-4.06	1.47
<b>300</b>	<b>0.1643</b>	<b>0.1743</b>	<b>0.1847</b>	<b>-5.71</b>	<b>5.99</b>	<b>3.90</b>	<b>-4.09</b>	<b>1.46</b>
301	0.1619	0.1717	0.1821	-5.73	6.02	#VALUE!	#VALUE!	#VALUE!