EPCOS

NTC thermistors for temperature measurement

Leaded NTCs,
lead spacing 2.5 mm

Series/Type: **B57891**
Date: March 2006

EPCOS

Temperature measurement **B57891**

Leaded NTCs, lead spacing 2.5 mm **S891**

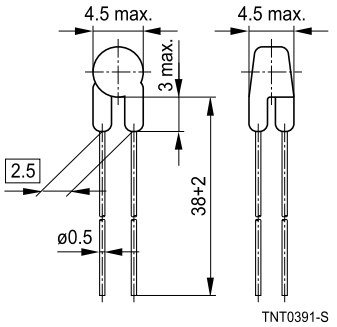
Applications
- Heating systems
- Automotive electronics

Features
- Favorable price/ performance ratio
- Rugged design, epoxy resin encapsulation
- Leads: copper-clad Fe wire, tinned
- UL approval (E69802)

Options
Lead spacing 5 mm available on request

Delivery mode
Bulk (standard),
cardboard tape, reeled or in Ammo pack

Dimensional drawing



Dimensions in mm
Approx. weight 0.2 g

General technical data

Climatic category	(IEC 60068-1)		55/155/56	
Max. power	(at 25 °C)	P_{25}	200	mW
Resistance tolerance		$\Delta R_R/R_R$	±1, ±3, ±5	%
Rated temperature		T_R	25	°C
Dissipation factor	(in air)	δ_{th}	approx. 4	mW/K
Thermal cooling time constant	(in air)	τ_c	approx. 15	s
Heat capacity		C_{th}	approx. 60	mJ/K

Electrical specification and ordering codes

R_{25} Ω	No. of R/T characteristic	$B_{25/100}$ K	Ordering code
2.2 k	1008	3560 ±1.5%	B57891S0222+008
5 k	2003	3980 ±1.0%	B57891S0502+008
10 k	4901	3950 ±1.0%	B57891S0103+008
20 k	2904	4300 ±1.0%	B57891S0203+008
100 k	4003	4450 ±1.0%	B57891S0104+008

+ = Resistance tolerance
F = ±1%
H = ±3%
J = ±5%

Reliability data

Test	Standard	Test conditions	$\Delta R_{25}/R_{25}$ (typical)	Remarks
Storage in dry heat	IEC 60068-2-2	Storage at upper category temperature T: 155 °C t: 1000 h	< 3%	No visible damage
Storage in damp heat, steady state	IEC 60068-2-78	Temperature of air: 40 °C Relative humidity of air: 93% Duration: 56 days	< 1%	No visible damage
Rapid temperature cycling	IEC 60068-2-14	Lower test temperature: −55 °C Upper test temperature: 155 °C Number of cycles: 100	< 2%	No visible damage
Endurance		P_{max}: 200 mW t: 1000 h	< 3%	No visible damage
Long-term stability (empirical value)		Temperature: 70 °C t: 10000 h	< 3%	No visible damage

R/T characteristics

	B57891S0222F008					
R/T No.	1008					
T (°C)	$B_{25/100}$ = 3560 K, R_{25} = 2200 Ω, T_R = 25 °C, $\Delta R_R/R_R$ = ± 1%					
	R_{nom}[Ω]	R_{min}[Ω]	R_{max}[Ω]	$\Delta R_R/R_R$[±%]	ΔT[±°C]	α (%/K)
−55.0	116830	107930	125730	7.6	1.2	6.1
−50.0	86499	80383	92614	7.1	1.2	6.0
−45.0	64515	60293	68738	6.5	1.1	5.8
−40.0	48466	45537	51395	6.0	1.1	5.7
−35.0	36666	34627	38706	5.6	1.0	5.5
−30.0	27931	26506	29356	5.1	0.9	5.4
−25.0	21395	20398	22392	4.7	0.9	5.2
−20.0	16538	15837	17238	4.2	0.8	5.1
−15.0	12838	12346	13329	3.8	0.8	4.9
−10.0	10051	9706	10396	3.4	0.7	4.8
−5.0	7931	7689	8173	3.1	0.7	4.7
0.0	6306	6137	6476	2.7	0.6	4.5
5.0	5040	4922	5157	2.3	0.5	4.4
10.0	4056	3975	4137	2.0	0.5	4.3
15.0	3282	3228	3337	1.7	0.4	4.1
20.0	2674	2638	2710	1.4	0.3	4.0
25.0	**2200**	**2178**	**2222**	**1.0**	**0.3**	**3.9**
30.0	1825	1801	1850	1.3	0.4	3.8
35.0	1510	1485	1535	1.6	0.4	3.7
40.0	1256	1232	1280	1.9	0.5	3.6
45.0	1056	1033	1079	2.2	0.6	3.5
50.0	892.0	870.3	913.7	2.4	0.7	3.4
55.0	751.7	731.5	771.9	2.7	0.8	3.3
60.0	636.9	618.3	655.6	2.9	0.9	3.2
65.0	543.7	526.5	560.9	3.2	1.0	3.1
70.0	466.0	450.2	481.9	3.4	1.1	3.1
75.0	400.3	385.8	414.8	3.6	1.2	3.0
80.0	345.0	331.7	358.2	3.8	1.3	2.9
85.0	299.0	286.9	311.1	4.1	1.4	2.8
90.0	260.1	249.0	271.2	4.3	1.5	2.8
95.0	227.5	217.3	237.6	4.5	1.7	2.7
100.0	199.6	190.3	208.9	4.6	1.8	2.6
105.0	175.2	166.7	183.7	4.8	1.9	2.6
110.0	154.2	146.5	162.0	5.0	2.0	2.5
115.0	136.2	129.1	143.2	5.2	2.1	2.4
120.0	120.5	114.0	127.0	5.4	2.3	2.4
125.0	107.2	101.2	113.1	5.5	2.4	2.3
130.0	95.51	90.05	101.0	5.7	2.5	2.3

	B57891S0222F008					
R/T No.	1008					
T (°C)	$B_{25/100}$ = 3560 K, R_{25} = 2200 Ω, T_R = 25 °C, $\Delta R_R/R_R$ = ± 1%					
	R_{nom}[Ω]	R_{min}[Ω]	R_{max}[Ω]	$\Delta R_R/R_R$[±%]	ΔT[±°C]	α (%/K)
140.0	76.15	71.56	80.75	6.0	2.8	2.2
145.0	68.31	64.08	72.53	6.2	2.9	2.1
150.0	61.40	57.51	65.29	6.3	3.0	2.1
155.0	55.42	51.83	59.02	6.5	3.2	2.0

	B57891S0222H008					
R/T No.	1008					
T (°C)	$B_{25/100}$ = 3560 K, R_{25} = 2200 Ω, T_R = 25 °C, $\Delta R_R/R_R$ = ± 3%					
	R_{nom}[Ω]	R_{min}[Ω]	R_{max}[Ω]	$\Delta R_R/R_R$[±%]	ΔT[±°C]	α (%/K)
−55.0	116830	105590	128060	9.6	1.6	6.1
−50.0	86499	78653	94344	9.1	1.5	6.0
−45.0	64515	59002	70028	8.5	1.5	5.8
−40.0	48466	44568	52364	8.0	1.4	5.7
−35.0	36666	33893	39439	7.6	1.4	5.5
−30.0	27931	25947	29914	7.1	1.3	5.4
−25.0	21395	19971	22820	6.7	1.3	5.2
−20.0	16538	15507	17568	6.2	1.2	5.1
−15.0	12838	12090	13585	5.8	1.2	4.9
−10.0	10051	9505	10597	5.4	1.1	4.8
−5.0	7931	7530	8332	5.1	1.1	4.7
0.0	6306	6011	6602	4.7	1.0	4.5
5.0	5040	4821	5258	4.3	1.0	4.4
10.0	4056	3894	4218	4.0	0.9	4.3
15.0	3282	3162	3403	3.7	0.9	4.1
20.0	2674	2584	2764	3.4	0.8	4.0
25.0	**2200**	**2134**	**2266**	**3.0**	**0.8**	**3.9**
30.0	1825	1764	1887	3.3	0.9	3.8
35.0	1510	1455	1565	3.6	1.0	3.7
40.0	1256	1207	1305	3.9	1.1	3.6
45.0	1056	1012	1100	4.2	1.2	3.5
50.0	892.0	852.4	931.5	4.4	1.3	3.4
55.0	751.7	716.5	787.0	4.7	1.4	3.3
60.0	636.9	605.5	668.3	4.9	1.5	3.2
65.0	543.7	515.6	571.8	5.2	1.6	3.1
70.0	466.0	440.9	491.2	5.4	1.8	3.1
75.0	400.3	377.8	422.8	5.6	1.9	3.0
80.0	345.0	324.8	365.1	5.8	2.0	2.9
85.0	299.0	280.9	317.1	6.1	2.1	2.8
90.0	260.1	243.8	276.4	6.3	2.3	2.8

	B57891S0222H008					
R/T No.	1008					
T (°C)	$B_{25/100}$ = 3560 K, R_{25} = 2200 Ω, T_R = 25 °C, $\Delta R_R/R_R$ = ± 3%					
	R_{nom}[Ω]	R_{min}[Ω]	R_{max}[Ω]	$\Delta R_R/R_R$[±%]	ΔT[±°C]	α (%/K)
95.0	227.5	212.8	242.2	6.5	2.4	2.7
100.0	199.6	186.4	212.9	6.6	2.5	2.6
105.0	175.2	163.2	187.2	6.8	2.7	2.6
110.0	154.2	143.4	165.1	7.0	2.8	2.5
115.0	136.2	126.3	146.0	7.2	2.9	2.4
120.0	120.5	111.6	129.4	7.4	3.1	2.4
125.0	107.2	99.06	115.2	7.5	3.2	2.3
130.0	95.51	88.14	102.9	7.7	3.4	2.3
135.0	85.19	78.48	91.90	7.9	3.5	2.2
140.0	76.15	70.03	82.27	8.0	3.7	2.2
145.0	68.31	62.71	73.90	8.2	3.8	2.1
150.0	61.40	56.28	66.52	8.3	4.0	2.1
155.0	55.42	50.72	60.13	8.5	4.2	2.0

	B57891S0222J008					
R/T No.	1008					
T (°C)	$B_{25/100}$ = 3560 K, R_{25} = 2200 Ω, T_R = 25 °C, $\Delta R_R/R_R$ = ± 5%					
	R_{nom}[Ω]	R_{min}[Ω]	R_{max}[Ω]	$\Delta R_R/R_R$[±%]	ΔT[±°C]	α (%/K)
−55.0	116830	103260	130400	11.6	1.9	6.1
−50.0	86499	76924	96074	11.1	1.9	6.0
−45.0	64515	57712	71319	10.5	1.8	5.8
−40.0	48466	43598	53334	10.0	1.8	5.7
−35.0	36666	33160	40172	9.6	1.7	5.5
−30.0	27931	25389	30473	9.1	1.7	5.4
−25.0	21395	19543	23248	8.7	1.7	5.2
−20.0	16538	15176	17899	8.2	1.6	5.1
−15.0	12838	11833	13842	7.8	1.6	4.9
−10.0	10051	9304	10798	7.4	1.5	4.8
−5.0	7931	7372	8490	7.1	1.5	4.7
0.0	6306	5884	6728	6.7	1.5	4.5
5.0	5040	4720	5359	6.3	1.4	4.4
10.0	4056	3813	4300	6.0	1.4	4.3
15.0	3282	3096	3469	5.7	1.4	4.1
20.0	2674	2531	2817	5.4	1.3	4.0
25.0	**2200**	**2090**	**2310**	**5.0**	**1.3**	**3.9**
30.0	1825	1728	1923	5.3	1.4	3.8
35.0	1510	1425	1595	5.6	1.5	3.7
40.0	1256	1182	1330	5.9	1.6	3.6
45.0	1056	991.1	1122	6.2	1.8	3.5

	B57891S0222J008					
R/T No.	1008					
T (°C)	$B_{25/100}$ = 3560 K, R_{25} = 2200 Ω, T_R = 25 °C, $\Delta R_R/R_R$ = ± 5%					
	R_{nom}[Ω]	R_{min}[Ω]	R_{max}[Ω]	$\Delta R_R/R_R$[±%]	ΔT[±°C]	α (%/K)
50.0	892.0	834.6	949.4	6.4	1.9	3.4
55.0	751.7	701.5	802.0	6.7	2.0	3.3
60.0	636.9	592.8	681.1	6.9	2.1	3.2
65.0	543.7	504.7	582.7	7.2	2.3	3.1
70.0	466.0	431.5	500.5	7.4	2.4	3.1
75.0	400.3	369.8	430.8	7.6	2.6	3.0
80.0	345.0	317.9	372.0	7.8	2.7	2.9
85.0	299.0	274.9	323.1	8.1	2.8	2.8
90.0	260.1	238.6	281.6	8.3	3.0	2.8
95.0	227.5	208.2	246.7	8.5	3.1	2.7
100.0	199.6	182.4	216.9	8.6	3.3	2.6
105.0	175.2	159.7	190.7	8.8	3.4	2.6
110.0	154.2	140.3	168.1	9.0	3.6	2.5
115.0	136.2	123.6	148.7	9.2	3.8	2.4
120.0	120.5	109.2	131.8	9.4	3.9	2.4
125.0	107.2	96.92	117.4	9.5	4.1	2.3
130.0	95.51	86.23	104.8	9.7	4.3	2.3
135.0	85.19	76.77	93.60	9.9	4.4	2.2
140.0	76.15	68.51	83.80	10.0	4.6	2.2
145.0	68.31	61.35	75.27	10.2	4.8	2.1
150.0	61.40	55.05	67.75	10.3	5.0	2.1
155.0	55.42	49.61	61.24	10.5	5.1	2.0

	B57891S0502F008					
R/T No.	2003					
T (°C)	$B_{25/100}$ = 3980 K, R_{25} = 5000 Ω, T_R = 25 °C, $\Delta R_R/R_R$ = ± 1%					
	R_{nom}[Ω]	R_{min}[Ω]	R_{max}[Ω]	$\Delta R_R/R_R$[±%]	ΔT[±°C]	α (%/K)
−55.0	487890	458880	516900	5.9	0.8	7.4
−50.0	338250	319530	356980	5.5	0.8	7.2
−45.0	237690	225460	249920	5.1	0.7	6.9
−40.0	169160	161090	177230	4.8	0.7	6.7
−35.0	121800	116420	127170	4.4	0.7	6.5
−30.0	88766	85153	92378	4.1	0.7	6.2
−25.0	65333	62889	67776	3.7	0.6	6.0
−20.0	48614	46950	50278	3.4	0.6	5.8
−15.0	36503	35365	37641	3.1	0.6	5.6
−10.0	27680	26898	28463	2.8	0.5	5.5
−5.0	21166	20628	21704	2.5	0.5	5.3
0.0	16330	15959	16701	2.3	0.4	5.1

	B57891S0502F008					
R/T No.	2003					
T (°C)	$B_{25/100}$ = 3980 K, R_{25} = 5000 Ω, T_R = 25 °C, $\Delta R_R/R_R$ = ± 1%					
	R_{nom}[Ω]	R_{min}[Ω]	R_{max}[Ω]	$\Delta R_R/R_R$[±%]	ΔT[±°C]	α (%/K)
5.0	12696	12441	12951	2.0	0.4	5.0
10.0	9951	9776	10126	1.8	0.4	4.8
15.0	7855	7736	7974	1.5	0.3	4.7
20.0	6246	6166	6326	1.3	0.3	4.5
25.0	**5000**	**4950**	**5050**	**1.0**	**0.2**	**4.4**
30.0	4029	3978	4080	1.3	0.3	4.3
35.0	3266	3218	3315	1.5	0.4	4.1
40.0	2665	2619	2710	1.7	0.4	4.0
45.0	2186	2144	2227	1.9	0.5	3.9
50.0	1803	1766	1841	2.1	0.5	3.8
55.0	1495	1461	1529	2.3	0.6	3.7
60.0	1247	1216	1277	2.5	0.7	3.6
65.0	1044	1017	1072	2.6	0.8	3.5
70.0	878.9	854.3	903.5	2.8	0.8	3.4
75.0	743.1	721.1	765.2	3.0	0.9	3.3
80.0	631.0	611.3	650.8	3.1	1.0	3.2
85.0	538.2	520.5	555.9	3.3	1.0	3.1
90.0	460.8	444.9	476.6	3.4	1.1	3.1
95.0	396.1	381.9	410.3	3.6	1.2	3.0
100.0	341.8	329.0	354.5	3.7	1.3	2.9
105.0	296.2	284.8	307.7	3.9	1.4	2.9
110.0	257.7	247.3	268.0	4.0	1.4	2.8
115.0	224.6	215.3	233.9	4.1	1.5	2.7
120.0	196.4	188.0	204.8	4.3	1.6	2.7
125.0	171.9	164.4	179.5	4.4	1.7	2.6
130.0	150.9	144.1	157.8	4.5	1.8	2.5
135.0	133.3	127.1	139.4	4.6	1.9	2.5
140.0	118.0	112.3	123.6	4.8	2.0	2.4
145.0	104.7	99.55	109.8	4.9	2.1	2.4
150.0	93.08	88.43	97.73	5.0	2.2	2.3
155.0	83.06	78.82	87.30	5.1	2.3	2.3

	B57891S0502H008					
R/T No.	2003					
T (°C)	$B_{25/100}$ = 3980 K, R_{25} = 5000 Ω, T_R = 25 °C, $\Delta R_R/R_R$ = ± 3%					
	R_{nom}[Ω]	R_{min}[Ω]	R_{max}[Ω]	$\Delta R_R/R_R$[±%]	ΔT[±°C]	α (%/K)
−55.0	487890	449130	526650	7.9	1.1	7.4
−50.0	338250	312760	363750	7.5	1.0	7.2
−45.0	237690	220700	254670	7.1	1.0	6.9

	B57891S0502H008					
R/T No.	2003					
T (°C)	$B_{25/100}$ = 3980 K, R_{25} = 5000 Ω, T_R = 25 °C, $\Delta R_R/R_R$ = ± 3%					
	R_{nom}[Ω]	R_{min}[Ω]	R_{max}[Ω]	$\Delta R_R/R_R$[±%]	ΔT[±°C]	α (%/K)
−40.0	169160	157700	180610	6.8	1.0	6.7
−35.0	121800	113980	129610	6.4	1.0	6.5
−30.0	88766	83378	94153	6.1	1.0	6.2
−25.0	65333	61583	69083	5.7	1.0	6.0
−20.0	48614	45978	51250	5.4	0.9	5.8
−15.0	36503	34634	38371	5.1	0.9	5.6
−10.0	27680	26345	29016	4.8	0.9	5.5
−5.0	21166	20204	22128	4.5	0.9	5.3
0.0	16330	15632	17028	4.3	0.8	5.1
5.0	12696	12187	13205	4.0	0.8	5.0
10.0	9951	9577	10325	3.8	0.8	4.8
15.0	7855	7579	8131	3.5	0.8	4.7
20.0	6246	6041	6451	3.3	0.7	4.5
25.0	**5000**	**4850**	**5150**	**3.0**	**0.7**	**4.4**
30.0	4029	3897	4160	3.3	0.8	4.3
35.0	3266	3153	3380	3.5	0.8	4.1
40.0	2665	2566	2763	3.7	0.9	4.0
45.0	2186	2101	2271	3.9	1.0	3.9
50.0	1803	1730	1877	4.1	1.1	3.8
55.0	1495	1432	1559	4.3	1.2	3.7
60.0	1247	1191	1302	4.5	1.2	3.6
65.0	1044	996.0	1093	4.6	1.3	3.5
70.0	878.9	836.7	921.1	4.8	1.4	3.4
75.0	743.1	706.2	780.1	5.0	1.5	3.3
80.0	631.0	598.7	663.4	5.1	1.6	3.2
85.0	538.2	509.7	566.6	5.3	1.7	3.1
90.0	460.8	435.7	485.9	5.4	1.8	3.1
95.0	396.1	374.0	418.3	5.6	1.9	3.0
100.0	341.8	322.2	361.4	5.7	2.0	2.9
105.0	296.2	278.8	313.6	5.9	2.1	2.9
110.0	257.7	242.2	273.1	6.0	2.2	2.8
115.0	224.6	210.8	238.4	6.1	2.3	2.7
120.0	196.4	184.1	208.7	6.3	2.4	2.7
125.0	171.9	160.9	182.9	6.4	2.5	2.6
130.0	150.9	141.1	160.8	6.5	2.6	2.5
135.0	133.3	124.4	142.1	6.6	2.7	2.5
140.0	118.0	110.0	126.0	6.8	2.8	2.4
145.0	104.7	97.46	111.9	6.9	2.9	2.4
150.0	93.08	86.57	99.59	7.0	3.0	2.3

	B57891S0502J008					
R/T No.	2003					
T (°C)	$B_{25/100}$ = 3980 K, R_{25} = 5000 Ω, T_R = 25 °C, $\Delta R_R/R_R$ = ± 5%					
	R_{nom}[Ω]	R_{min}[Ω]	R_{max}[Ω]	$\Delta R_R/R_R$[±%]	ΔT[±°C]	α (%/K)
−55.0	487890	439370	536410	9.9	1.3	7.4
−50.0	338250	306000	370510	9.5	1.3	7.2
−45.0	237690	215950	259430	9.1	1.3	6.9
−40.0	169160	154320	184000	8.8	1.3	6.7
−35.0	121800	111550	132040	8.4	1.3	6.5
−30.0	88766	81603	95929	8.1	1.3	6.2
−25.0	65333	60276	70389	7.7	1.3	6.0
−20.0	48614	45005	52223	7.4	1.3	5.8
−15.0	36503	33904	39101	7.1	1.3	5.6
−10.0	27680	25791	29570	6.8	1.3	5.5
−5.0	21166	19781	22551	6.5	1.2	5.3
0.0	16330	15306	17354	6.3	1.2	5.1
5.0	12696	11933	13459	6.0	1.2	5.0
10.0	9951	9378	10524	5.8	1.2	4.8
15.0	7855	7422	8288	5.5	1.2	4.7
20.0	6246	5916	6576	5.3	1.2	4.5
25.0	**5000**	**4750**	**5250**	**5.0**	**1.1**	**4.4**
30.0	4029	3816	4241	5.3	1.2	4.3
35.0	3266	3087	3445	5.5	1.3	4.1
40.0	2665	2513	2816	5.7	1.4	4.0
45.0	2186	2057	2314	5.9	1.5	3.9
50.0	1803	1694	1913	6.1	1.6	3.8
55.0	1495	1402	1589	6.3	1.7	3.7
60.0	1247	1166	1327	6.5	1.8	3.6
65.0	1044	975.1	1114	6.6	1.9	3.5
70.0	878.9	819.2	938.7	6.8	2.0	3.4
75.0	743.1	691.4	794.9	7.0	2.1	3.3
80.0	631.0	586.1	676.0	7.1	2.2	3.2
85.0	538.2	499.0	577.4	7.3	2.3	3.1
90.0	460.8	426.5	495.1	7.4	2.4	3.1
95.0	396.1	366.1	426.2	7.6	2.5	3.0
100.0	341.8	315.4	368.2	7.7	2.6	2.9
105.0	296.2	272.9	319.6	7.9	2.8	2.9
110.0	257.7	237.0	278.3	8.0	2.9	2.8
115.0	224.6	206.3	242.9	8.1	3.0	2.7
120.0	196.4	180.2	212.7	8.3	3.1	2.7
125.0	171.9	157.5	186.4	8.4	3.2	2.6
130.0	150.9	138.1	163.8	8.5	3.4	2.5
135.0	133.3	121.7	144.8	8.6	3.5	2.5

	B57891S0502J008					
R/T No.	2003					
T (°C)	$B_{25/100}$ = 3980 K, R_{25} = 5000 Ω, T_R = 25 °C, $\Delta R_R/R_R$ = ± 5%					
	R_{nom}[Ω]	R_{min}[Ω]	R_{max}[Ω]	$\Delta R_R/R_R$[±%]	ΔT[±°C]	α (%/K)
140.0	118.0	107.6	128.3	8.8	3.6	2.4
145.0	104.7	95.36	114.0	8.9	3.8	2.4
150.0	93.08	84.71	101.5	9.0	3.9	2.3
155.0	83.06	75.50	90.62	9.1	4.0	2.3

	B57891S0103F008					
R/T No.	4901					
T (°C)	$B_{25/100}$ = 3950 K, R_{25} = 10000 Ω, T_R = 25 °C, $\Delta R_R/R_R$ = ± 1%					
	R_{nom}[Ω]	R_{min}[Ω]	R_{max}[Ω]	$\Delta R_R/R_R$[±%]	ΔT[±°C]	α (%/K)
−55.0	878900	826970	930830	5.9	0.8	7.1
−50.0	617590	583600	651570	5.5	0.8	6.9
−45.0	439340	416870	461810	5.1	0.8	6.7
−40.0	316180	301180	331180	4.7	0.7	6.5
−35.0	230060	219970	240160	4.4	0.7	6.3
−30.0	169150	162300	175990	4.0	0.7	6.1
−25.0	125550	120880	130220	3.7	0.6	5.9
−20.0	94143	90938	97349	3.4	0.6	5.7
−15.0	71172	68964	73381	3.1	0.6	5.5
−10.0	54308	52781	55836	2.8	0.5	5.4
−5.0	41505	40454	42556	2.5	0.5	5.2
0.0	32014	31290	32738	2.3	0.4	5.0
5.0	25011	24510	25512	2.0	0.4	4.9
10.0	19691	19346	20036	1.8	0.4	4.7
15.0	15618	15382	15854	1.5	0.3	4.6
20.0	12474	12315	12633	1.3	0.3	4.5
25.0	**10000**	**9900**	**10100**	**1.0**	**0.2**	**4.3**
30.0	8080	7977	8182	1.3	0.3	4.2
35.0	6569	6472	6666	1.5	0.4	4.1
40.0	5372	5282	5462	1.7	0.4	4.0
45.0	4424	4340	4507	1.9	0.5	3.9
50.0	3661	3585	3737	2.1	0.6	3.8
55.0	3039	2971	3108	2.3	0.6	3.7
60.0	2536	2474	2598	2.4	0.7	3.6
65.0	2128	2073	2184	2.6	0.8	3.5
70.0	1794	1744	1844	2.8	0.8	3.4
75.0	1518	1474	1563	3.0	0.9	3.3
80.0	1290	1250	1330	3.1	1.0	3.2
85.0	1100	1064	1136	3.3	1.0	3.1
90.0	941.8	909.6	974.0	3.4	1.1	3.1

	B57891S0103F008					
R/T No.	4901					
T (°C)	$B_{25/100}$ = 3950 K, R_{25} = 10000 Ω, T_R = 25 °C, $\Delta R_R/R_R$ = ± 1%					
	R_{nom}[Ω]	R_{min}[Ω]	R_{max}[Ω]	$\Delta R_R/R_R$[±%]	ΔT[±°C]	α (%/K)
95.0	809.0	780.1	837.8	3.6	1.2	3.0
100.0	697.2	671.3	723.1	3.7	1.3	2.9
105.0	604.0	580.7	627.2	3.9	1.3	2.9
110.0	524.9	504.0	545.9	4.0	1.4	2.8
115.0	457.3	438.5	476.2	4.1	1.5	2.7
120.0	399.6	382.6	416.6	4.3	1.6	2.7
125.0	350.6	335.2	365.9	4.4	1.7	2.6
130.0	308.4	294.6	322.3	4.5	1.8	2.6
135.0	271.9	259.4	284.5	4.6	1.8	2.5
140.0	240.3	229.0	251.7	4.7	1.9	2.5
145.0	212.8	202.5	223.2	4.9	2.0	2.4
150.0	189.0	179.6	198.3	5.0	2.1	2.4
155.0	168.1	159.6	176.7	5.1	2.2	2.3

	B57891S0103H008					
R/T No.	4901					
T (°C)	$B_{25/100}$ = 3950 K, R_{25} = 10000 Ω, T_R = 25 °C, $\Delta R_R/R_R$ = ± 3%					
	R_{nom}[Ω]	R_{min}[Ω]	R_{max}[Ω]	$\Delta R_R/R_R$[±%]	ΔT[±°C]	α (%/K)
−55.0	878900	809390	948400	7.9	1.1	7.1
−50.0	617590	571250	663930	7.5	1.1	6.9
−45.0	439340	408080	470590	7.1	1.1	6.7
−40.0	316180	294860	337500	6.7	1.0	6.5
−35.0	230060	215370	244760	6.4	1.0	6.3
−30.0	169150	158920	179380	6.0	1.0	6.1
−25.0	125550	118370	132730	5.7	1.0	5.9
−20.0	94143	89055	99232	5.4	0.9	5.7
−15.0	71172	67540	74804	5.1	0.9	5.5
−10.0	54308	51695	56922	4.8	0.9	5.4
−5.0	41505	39624	43386	4.5	0.9	5.2
0.0	32014	30649	33378	4.3	0.8	5.0
5.0	25011	24010	26012	4.0	0.8	4.9
10.0	19691	18952	20429	3.8	0.8	4.7
15.0	15618	15070	16166	3.5	0.8	4.6
20.0	12474	12065	12882	3.3	0.7	4.5
25.0	**10000**	**9700**	**10300**	**3.0**	**0.7**	**4.3**
30.0	8080	7816	8344	3.3	0.8	4.2
35.0	6569	6340	6798	3.5	0.9	4.1
40.0	5372	5174	5570	3.7	0.9	4.0
45.0	4424	4252	4595	3.9	1.0	3.9

	B57891S0103H008					
R/T No.	4901					
T (°C)	$B_{25/100}$ = 3950 K, R_{25} = 10000 Ω, T_R = 25 °C, $\Delta R_R/R_R$ = ± 3%					
	R_{nom}[Ω]	R_{min}[Ω]	R_{max}[Ω]	$\Delta R_R/R_R$[±%]	ΔT[±°C]	α (%/K)
50.0	3661	3512	3810	4.1	1.1	3.8
55.0	3039	2910	3169	4.3	1.2	3.7
60.0	2536	2423	2649	4.4	1.2	3.6
65.0	2128	2030	2227	4.6	1.3	3.5
70.0	1794	1708	1880	4.8	1.4	3.4
75.0	1518	1443	1594	5.0	1.5	3.3
80.0	1290	1224	1356	5.1	1.6	3.2
85.0	1100	1042	1158	5.3	1.7	3.1
90.0	941.8	890.7	992.8	5.4	1.8	3.1
95.0	809.0	763.9	854.0	5.6	1.9	3.0
100.0	697.2	657.4	737.1	5.7	2.0	2.9
105.0	604.0	568.6	639.3	5.9	2.0	2.9
110.0	524.9	493.5	556.4	6.0	2.1	2.8
115.0	457.3	429.3	485.3	6.1	2.2	2.7
120.0	399.6	374.7	424.6	6.3	2.3	2.7
125.0	350.6	328.2	372.9	6.4	2.4	2.6
130.0	308.4	288.4	328.5	6.5	2.5	2.6
135.0	271.9	253.9	289.9	6.6	2.6	2.5
140.0	240.3	224.2	256.5	6.7	2.7	2.5
145.0	212.8	198.3	227.4	6.9	2.9	2.4
150.0	189.0	175.8	202.1	7.0	3.0	2.4
155.0	168.1	156.2	180.0	7.1	3.1	2.3

	B57891S0103J008					
R/T No.	4901					
T (°C)	$B_{25/100}$ = 3950 K, R_{25} = 10000 Ω, T_R = 25 °C, $\Delta R_R/R_R$ = ± 5%					
	R_{nom}[Ω]	R_{min}[Ω]	R_{max}[Ω]	$\Delta R_R/R_R$[±%]	ΔT[±°C]	α (%/K)
−55.0	878900	791810	965980	9.9	1.4	7.1
−50.0	617590	558900	676280	9.5	1.4	6.9
−45.0	439340	399290	479380	9.1	1.4	6.7
−40.0	316180	288540	343830	8.7	1.3	6.5
−35.0	230060	210760	249360	8.4	1.3	6.3
−30.0	169150	155540	182760	8.0	1.3	6.1
−25.0	125550	115860	135240	7.7	1.3	5.9
−20.0	94143	87172	101110	7.4	1.3	5.7
−15.0	71172	66117	76228	7.1	1.3	5.5
−10.0	54308	50609	58008	6.8	1.3	5.4
−5.0	41505	38794	44216	6.5	1.3	5.2
0.0	32014	30009	34019	6.3	1.2	5.0

	B57891S0103J008					
R/T No.	4901					
T (°C)	$B_{25/100}$ = 3950 K, R_{25} = 10000 Ω, T_R = 25 °C, $\Delta R_R/R_R$ = ± 5%					
	R_{nom}[Ω]	R_{min}[Ω]	R_{max}[Ω]	$\Delta R_R/R_R$[±%]	ΔT[±°C]	α (%/K)
5.0	25011	23509	26512	6.0	1.2	4.9
10.0	19691	18558	20823	5.8	1.2	4.7
15.0	15618	14758	16479	5.5	1.2	4.6
20.0	12474	11816	13132	5.3	1.2	4.5
25.0	**10000**	**9500**	**10500**	**5.0**	**1.2**	**4.3**
30.0	8080	7654	8506	5.3	1.3	4.2
35.0	6569	6209	6929	5.5	1.3	4.1
40.0	5372	5067	5677	5.7	1.4	4.0
45.0	4424	4163	4684	5.9	1.5	3.9
50.0	3661	3439	3883	6.1	1.6	3.8
55.0	3039	2849	3230	6.3	1.7	3.7
60.0	2536	2373	2699	6.4	1.8	3.6
65.0	2128	1987	2269	6.6	1.9	3.5
70.0	1794	1672	1916	6.8	2.0	3.4
75.0	1518	1413	1624	7.0	2.1	3.3
80.0	1290	1198	1382	7.1	2.2	3.2
85.0	1100	1020	1180	7.3	2.3	3.1
90.0	941.8	871.9	1012	7.4	2.4	3.1
95.0	809.0	747.7	870.2	7.6	2.5	3.0
100.0	697.2	643.4	751.0	7.7	2.6	2.9
105.0	604.0	556.5	651.4	7.9	2.8	2.9
110.0	524.9	483.0	566.9	8.0	2.9	2.8
115.0	457.3	420.2	494.5	8.1	3.0	2.7
120.0	399.6	366.7	432.6	8.3	3.1	2.7
125.0	350.6	321.2	380.0	8.4	3.2	2.6
130.0	308.4	282.2	334.7	8.5	3.3	2.6
135.0	271.9	248.5	295.4	8.6	3.4	2.5
140.0	240.3	219.3	261.3	8.7	3.6	2.5
145.0	212.8	194.0	231.7	8.9	3.7	2.4
150.0	189.0	172.0	205.9	9.0	3.8	2.4
155.0	168.1	152.9	183.4	9.1	3.9	2.3

	B57891S0203F008					
R/T No.	2904					
T (°C)	$B_{25/100}$ = 4300 K, R_{25} = 20000 Ω, T_R = 25 °C, $\Delta R_R/R_R$ = ± 1%					
	R_{nom}[Ω]	R_{min}[Ω]	R_{max}[Ω]	$\Delta R_R/R_R$[±%]	ΔT[±°C]	α (%/K)
−55.0	2429200	2275200	2583200	6.3	0.9	7.3
−50.0	1688800	1589200	1788400	5.9	0.8	7.1
−45.0	1184900	1120000	1249700	5.5	0.8	7.0

	B57891S0203F008					
R/T No.	2904					
T (°C)	$B_{25/100}$ = 4300 K, R_{25} = 20000 Ω, T_R = 25 °C, $\Delta R_R/R_R$ = ± 1%					
	R_{nom}[Ω]	R_{min}[Ω]	R_{max}[Ω]	$\Delta R_R/R_R$[±%]	ΔT[±°C]	α (%/K)
−40.0	838770	796240	881300	5.1	0.7	6.9
−35.0	598950	570900	627000	4.7	0.7	6.7
−30.0	431350	412750	449950	4.3	0.7	6.5
−25.0	312810	300440	325190	4.0	0.6	6.3
−20.0	229310	221030	237600	3.6	0.6	6.2
−15.0	169020	163470	174570	3.3	0.5	6.0
−10.0	125850	122120	129590	3.0	0.5	5.8
−5.0	94153	91646	96661	2.7	0.5	5.6
0.0	71126	69440	72812	2.4	0.4	5.5
5.0	54237	53105	55369	2.1	0.4	5.3
10.0	41719	40963	42476	1.8	0.4	5.2
15.0	32409	31906	32911	1.6	0.3	5.0
20.0	25367	25038	25696	1.3	0.3	4.9
25.0	**20000**	**19800**	**20200**	**1.0**	**0.2**	**4.7**
30.0	15884	15679	16089	1.3	0.3	4.6
35.0	12654	12461	12846	1.5	0.3	4.5
40.0	10148	9971	10325	1.7	0.4	4.3
45.0	8205	8045	8366	2.0	0.5	4.2
50.0	6673	6528	6817	2.2	0.5	4.1
55.0	5449	5320	5578	2.4	0.6	4.0
60.0	4474	4359	4589	2.6	0.7	3.9
65.0	3692	3590	3794	2.8	0.7	3.8
70.0	3061	2971	3151	2.9	0.8	3.7
75.0	2551	2471	2631	3.1	0.9	3.6
80.0	2135	2065	2206	3.3	0.9	3.5
85.0	1799	1736	1861	3.5	1.0	3.4
90.0	1521	1466	1577	3.6	1.1	3.3
95.0	1290	1242	1339	3.8	1.2	3.2
100.0	1099	1055	1142	3.9	1.2	3.2
105.0	940.1	901.5	978.6	4.1	1.3	3.1
110.0	807.2	772.9	841.5	4.2	1.4	3.0
115.0	694.9	664.3	725.4	4.4	1.5	3.0
120.0	600.1	572.9	627.3	4.5	1.6	2.9
125.0	520.1	495.8	544.4	4.7	1.7	2.8
130.0	452.2	430.4	473.9	4.8	1.7	2.8
135.0	394.4	374.9	413.9	4.9	1.8	2.7
140.0	345.0	327.5	362.5	5.1	1.9	2.6
145.0	302.8	287.1	318.5	5.2	2.0	2.6
150.0	266.4	252.3	280.6	5.3	2.1	2.5

	B57891S0203H008					
R/T No.	2904					
T (°C)	$B_{25/100}$ = 4300 K, R_{25} = 20000 Ω, T_R = 25 °C, $\Delta R_R/R_R$ = ± 3%					
	R_{nom}[Ω]	R_{min}[Ω]	R_{max}[Ω]	$\Delta R_R/R_R$[±%]	ΔT[±°C]	α (%/K)
−55.0	2429200	2226600	2631700	8.3	1.1	7.3
−50.0	1688800	1555400	1822100	7.9	1.1	7.1
−45.0	1184900	1096300	1273400	7.5	1.1	7.0
−40.0	838770	779460	898080	7.1	1.0	6.9
−35.0	598950	558920	638980	6.7	1.0	6.7
−30.0	431350	404120	458570	6.3	1.0	6.5
−25.0	312810	294180	331440	6.0	0.9	6.3
−20.0	229310	216440	242190	5.6	0.9	6.2
−15.0	169020	160090	177950	5.3	0.9	6.0
−10.0	125850	119600	132110	5.0	0.9	5.8
−5.0	94153	89762	98544	4.7	0.8	5.6
0.0	71126	68018	74234	4.4	0.8	5.5
5.0	54237	52021	56454	4.1	0.8	5.3
10.0	41719	40128	43311	3.8	0.7	5.2
15.0	32409	31258	33559	3.6	0.7	5.0
20.0	25367	24531	26203	3.3	0.7	4.9
25.0	**20000**	**19400**	**20600**	**3.0**	**0.6**	**4.7**
30.0	15884	15362	16406	3.3	0.7	4.6
35.0	12654	12208	13099	3.5	0.8	4.5
40.0	10148	9768	10528	3.7	0.9	4.3
45.0	8205	7881	8530	4.0	0.9	4.2
50.0	6673	6395	6951	4.2	1.0	4.1
55.0	5449	5211	5687	4.4	1.1	4.0
60.0	4474	4270	4678	4.6	1.2	3.9
65.0	3692	3516	3867	4.8	1.3	3.8
70.0	3061	2910	3212	4.9	1.3	3.7
75.0	2551	2420	2682	5.1	1.4	3.6
80.0	2135	2022	2249	5.3	1.5	3.5
85.0	1799	1700	1897	5.5	1.6	3.4
90.0	1521	1436	1607	5.6	1.7	3.3
95.0	1290	1216	1365	5.8	1.8	3.2
100.0	1099	1033	1164	5.9	1.9	3.2
105.0	940.1	882.7	997.4	6.1	2.0	3.1
110.0	807.2	756.7	857.6	6.2	2.1	3.0
115.0	694.9	650.4	739.3	6.4	2.2	3.0
120.0	600.1	560.9	639.3	6.5	2.3	2.9
125.0	520.1	485.4	554.8	6.7	2.4	2.8
130.0	452.2	421.4	482.9	6.8	2.5	2.8
135.0	394.4	367.0	421.8	6.9	2.6	2.7

	B57891S0203H008					
R/T No.	2904					
T (°C)	$B_{25/100}$ = 4300 K, R_{25} = 20000 Ω, T_R = 25 °C, $\Delta R_R/R_R$ = ± 3%					
	R_{nom}[Ω]	R_{min}[Ω]	R_{max}[Ω]	$\Delta R_R/R_R$[±%]	ΔT[±°C]	α (%/K)
140.0	345.0	320.6	369.4	7.1	2.7	2.6
145.0	302.8	281.0	324.5	7.2	2.8	2.6
150.0	266.4	246.9	285.9	7.3	2.9	2.5
155.0	235.1	217.6	252.5	7.4	3.0	2.5

	B57891S0203J008					
R/T No.	2904					
T (°C)	$B_{25/100}$ = 4300 K, R_{25} = 20000 Ω, T_R = 25 °C, $\Delta R_R/R_R$ = ± 5%					
	R_{nom}[Ω]	R_{min}[Ω]	R_{max}[Ω]	$\Delta R_R/R_R$[±%]	ΔT[±°C]	α (%/K)
−55.0	2429200	2178000	2680300	10.3	1.4	7.3
−50.0	1688800	1521600	1855900	9.9	1.4	7.1
−45.0	1184900	1072600	1297100	9.5	1.4	7.0
−40.0	838770	762690	914850	9.1	1.3	6.9
−35.0	598950	546940	650960	8.7	1.3	6.7
−30.0	431350	395490	467200	8.3	1.3	6.5
−25.0	312810	287920	337700	8.0	1.3	6.3
−20.0	229310	211850	246770	7.6	1.2	6.2
−15.0	169020	156710	181330	7.3	1.2	6.0
−10.0	125850	117080	134620	7.0	1.2	5.8
−5.0	94153	87879	100430	6.7	1.2	5.6
0.0	71126	66595	75657	6.4	1.2	5.5
5.0	54237	50936	57539	6.1	1.1	5.3
10.0	41719	39294	44145	5.8	1.1	5.2
15.0	32409	30610	34208	5.6	1.1	5.0
20.0	25367	24024	26710	5.3	1.1	4.9
25.0	**20000**	**19000**	**21000**	**5.0**	**1.1**	**4.7**
30.0	15884	15044	16724	5.3	1.2	4.6
35.0	12654	11955	13352	5.5	1.2	4.5
40.0	10148	9565	10731	5.7	1.3	4.3
45.0	8205	7717	8694	6.0	1.4	4.2
50.0	6673	6261	7084	6.2	1.5	4.1
55.0	5449	5102	5796	6.4	1.6	4.0
60.0	4474	4180	4768	6.6	1.7	3.9
65.0	3692	3442	3941	6.8	1.8	3.8
70.0	3061	2848	3273	6.9	1.9	3.7
75.0	2551	2369	2733	7.1	2.0	3.6
80.0	2135	1980	2291	7.3	2.1	3.5
85.0	1799	1664	1933	7.5	2.2	3.4
90.0	1521	1405	1637	7.6	2.3	3.3

	B57891S0203J008					
R/T No.	2904					
T (°C)	$B_{25/100}$ = 4300 K, R_{25} = 20000 Ω, T_R = 25 °C, $\Delta R_R/R_R$ = ± 5%					
	R_{nom}[Ω]	R_{min}[Ω]	R_{max}[Ω]	$\Delta R_R/R_R$[±%]	ΔT[±°C]	α (%/K)
95.0	1290	1190	1391	7.8	2.4	3.2
100.0	1099	1011	1186	7.9	2.5	3.2
105.0	940.1	863.9	1016	8.1	2.6	3.1
110.0	807.2	740.6	873.8	8.2	2.7	3.0
115.0	694.9	636.5	753.2	8.4	2.8	3.0
120.0	600.1	548.9	651.4	8.5	3.0	2.9
125.0	520.1	475.0	565.2	8.7	3.1	2.8
130.0	452.2	412.4	492.0	8.8	3.2	2.8
135.0	394.4	359.2	429.7	8.9	3.3	2.7
140.0	345.0	313.7	376.3	9.1	3.4	2.6
145.0	302.8	275.0	330.6	9.2	3.5	2.6
150.0	266.4	241.6	291.2	9.3	3.7	2.5
155.0	235.1	212.9	257.2	9.4	3.8	2.5

	B57891S0104F008					
R/T No.	4003					
T (°C)	$B_{25/100}$ = 4450 K, R_{25} = 100000 Ω, T_R = 25 °C, $\Delta R_R/R_R$ = ± 1%					
	R_{nom}[Ω]	R_{min}[Ω]	R_{max}[Ω]	$\Delta R_R/R_R$[±%]	ΔT[±°C]	α (%/K)
−55.0	10381000	9704000	11058000	6.5	1.0	6.8
−50.0	7370700	6923600	7817900	6.1	0.9	6.7
−45.0	5272300	4975500	5569100	5.6	0.8	6.6
−40.0	3798800	3600800	3996700	5.2	0.8	6.5
−35.0	2756500	2623900	2889100	4.8	0.8	6.4
−30.0	2014200	1925100	2103400	4.4	0.7	6.2
−25.0	1480100	1420100	1540200	4.1	0.7	6.1
−20.0	1097600	1056900	1138200	3.7	0.6	6.0
−15.0	817440	789950	844930	3.4	0.6	5.8
−10.0	614070	595430	632710	3.0	0.5	5.7
−5.0	463310	450710	475910	2.7	0.5	5.5
0.0	352440	343920	360950	2.4	0.4	5.4
5.0	269950	264220	275680	2.1	0.4	5.3
10.0	208310	204480	212140	1.8	0.4	5.1
15.0	161890	159350	164430	1.6	0.3	5.0
20.0	126660	125010	128320	1.3	0.3	4.9
25.0	**100000**	**99000**	**101000**	**1.0**	**0.2**	**4.8**
30.0	78351	77336	79367	1.3	0.3	4.6
35.0	62372	61415	63329	1.5	0.3	4.5
40.0	49937	49056	50818	1.8	0.4	4.4
45.0	40218	39419	41018	2.0	0.5	4.3

	B57891S0104F008					
R/T No.	4003					
T (°C)	$B_{25/100}$ = 4450 K, R_{25} = 100000 Ω, T_R = 25 °C, $\Delta R_R/R_R$ = ± 1%					
	R_{nom}[Ω]	R_{min}[Ω]	R_{max}[Ω]	$\Delta R_R/R_R$[±%]	ΔT[±°C]	α (%/K)
50.0	32557	31839	33275	2.2	0.5	4.2
55.0	26402	25765	27040	2.4	0.6	4.1
60.0	21527	20964	22091	2.6	0.7	4.0
65.0	17693	17195	18191	2.8	0.7	3.9
70.0	14616	14176	15055	3.0	0.8	3.8
75.0	12097	11710	12483	3.2	0.9	3.8
80.0	10053	9714	10393	3.4	0.9	3.7
85.0	8376	8079	8673	3.6	1.0	3.6
90.0	7004	6743	7265	3.7	1.1	3.5
95.0	5894	5665	6123	3.9	1.1	3.4
100.0	4978	4776	5179	4.0	1.2	3.4
105.0	4215	4037	4392	4.2	1.3	3.3
110.0	3580	3424	3736	4.4	1.3	3.2
115.0	3050	2913	3188	4.5	1.4	3.2
120.0	2607	2485	2728	4.7	1.5	3.1
125.0	2233	2126	2340	4.8	1.6	3.0
130.0	1919	1824	2013	4.9	1.7	3.0
135.0	1652	1568	1735	5.1	1.7	2.9
140.0	1425	1351	1499	5.2	1.8	2.9
145.0	1237	1171	1303	5.3	1.9	2.8
150.0	1076	1017	1134	5.5	2.0	2.8
155.0	939.3	886.9	991.8	5.6	2.1	2.7

	B57891S0104H008					
R/T No.	4003					
T (°C)	$B_{25/100}$ = 4450 K, R_{25} = 100000 Ω, T_R = 25 °C, $\Delta R_R/R_R$ = ± 3%					
	R_{nom}[Ω]	R_{min}[Ω]	R_{max}[Ω]	$\Delta R_R/R_R$[±%]	ΔT[±°C]	α (%/K)
−55.0	10381000	9496300	11266000	8.5	1.2	6.8
−50.0	7370700	6776200	7965300	8.1	1.2	6.7
−45.0	5272300	4870100	5674500	7.6	1.2	6.6
−40.0	3798800	3524800	4072700	7.2	1.1	6.5
−35.0	2756500	2568800	2944300	6.8	1.1	6.4
−30.0	2014200	1884800	2143700	6.4	1.0	6.2
−25.0	1480100	1390500	1569800	6.1	1.0	6.1
−20.0	1097600	1035000	1160200	5.7	1.0	6.0
−15.0	817440	773600	861280	5.4	0.9	5.8
−10.0	614070	583150	644990	5.0	0.9	5.7
−5.0	463310	441440	485180	4.7	0.9	5.5
0.0	352440	336870	368000	4.4	0.8	5.4

	B57891S0104H008					
R/T No.	4003					
T (°C)	$B_{25/100}$ = 4450 K, R_{25} = 100000 Ω, T_R = 25 °C, $\Delta R_R/R_R$ = ± 3%					
	R_{nom}[Ω]	R_{min}[Ω]	R_{max}[Ω]	$\Delta R_R/R_R$[±%]	ΔT[±°C]	α (%/K)
5.0	269950	258820	281080	4.1	0.8	5.3
10.0	208310	200310	216310	3.8	0.7	5.1
15.0	161890	156120	167670	3.6	0.7	5.0
20.0	126660	122480	130850	3.3	0.7	4.9
25.0	**100000**	**97000**	**103000**	**3.0**	**0.6**	**4.8**
30.0	78351	75769	80934	3.3	0.7	4.6
35.0	62372	60168	64577	3.5	0.8	4.5
40.0	49937	48057	51817	3.8	0.9	4.4
45.0	40218	38614	41822	4.0	0.9	4.3
50.0	32557	31188	33926	4.2	1.0	4.2
55.0	26402	25237	27568	4.4	1.1	4.1
60.0	21527	20533	22521	4.6	1.1	4.0
65.0	17693	16841	18545	4.8	1.2	3.9
70.0	14616	13884	15347	5.0	1.3	3.8
75.0	12097	11468	12725	5.2	1.4	3.8
80.0	10053	9513	10594	5.4	1.5	3.7
85.0	8376	7911	8841	5.6	1.5	3.6
90.0	7004	6603	7405	5.7	1.6	3.5
95.0	5894	5547	6241	5.9	1.7	3.4
100.0	4978	4677	5279	6.0	1.8	3.4
105.0	4215	3953	4476	6.2	1.9	3.3
110.0	3580	3353	3808	6.4	2.0	3.2
115.0	3050	2852	3249	6.5	2.1	3.2
120.0	2607	2433	2780	6.7	2.1	3.1
125.0	2233	2081	2385	6.8	2.2	3.0
130.0	1919	1785	2052	6.9	2.3	3.0
135.0	1652	1535	1768	7.1	2.4	2.9
140.0	1425	1323	1528	7.2	2.5	2.9
145.0	1237	1146	1327	7.3	2.6	2.8
150.0	1076	995.5	1156	7.5	2.7	2.8
155.0	939.3	868.1	1011	7.6	2.8	2.7

	B57891S0104J008					
R/T No.	4003					
T (°C)	$B_{25/100}$ = 4450 K, R_{25} = 100000 Ω, T_R = 25 °C, $\Delta R_R/R_R$ = ± 5%					
	R_{nom}[Ω]	R_{min}[Ω]	R_{max}[Ω]	$\Delta R_R/R_R$[±%]	ΔT[±°C]	α (%/K)
−55.0	10381000	9288700	11474000	10.5	1.5	6.8
−50.0	7370700	6628800	8112700	10.1	1.5	6.7
−45.0	5272300	4764600	5780000	9.6	1.5	6.6

	B57891S0104J008					
R/T No.	4003					
T (°C)	$B_{25/100}$ = 4450 K, R_{25} = 100000 Ω, T_R = 25 °C, $\Delta R_R/R_R$ = ± 5%					
	R_{nom}[Ω]	R_{min}[Ω]	R_{max}[Ω]	$\Delta R_R/R_R$[±%]	ΔT[±°C]	α (%/K)
−40.0	3798800	3448800	4148700	9.2	1.4	6.5
−35.0	2756500	2513700	2999400	8.8	1.4	6.4
−30.0	2014200	1844500	2184000	8.4	1.4	6.2
−25.0	1480100	1360900	1599400	8.1	1.3	6.1
−20.0	1097600	1013000	1182100	7.7	1.3	6.0
−15.0	817440	757260	877630	7.4	1.3	5.8
−10.0	614070	570870	657270	7.0	1.2	5.7
−5.0	463310	432180	494440	6.7	1.2	5.5
0.0	352440	329820	375050	6.4	1.2	5.4
5.0	269950	253420	286480	6.1	1.2	5.3
10.0	208310	196140	220480	5.8	1.1	5.1
15.0	161890	152880	170910	5.6	1.1	5.0
20.0	126660	119940	133380	5.3	1.1	4.9
25.0	**100000**	**95000**	**105000**	**5.0**	**1.1**	**4.8**
30.0	78351	74201	82501	5.3	1.1	4.6
35.0	62372	58920	65824	5.5	1.2	4.5
40.0	49937	47058	52816	5.8	1.3	4.4
45.0	40218	37810	42627	6.0	1.4	4.3
50.0	32557	30537	34577	6.2	1.5	4.2
55.0	26402	24709	28096	6.4	1.6	4.1
60.0	21527	20103	22952	6.6	1.6	4.0
65.0	17693	16487	18899	6.8	1.7	3.9
70.0	14616	13591	15640	7.0	1.8	3.8
75.0	12097	11226	12967	7.2	1.9	3.8
80.0	10053	9312	10795	7.4	2.0	3.7
85.0	8376	7744	9009	7.6	2.1	3.6
90.0	7004	6463	7545	7.7	2.2	3.5
95.0	5894	5429	6359	7.9	2.3	3.4
100.0	4978	4577	5378	8.0	2.4	3.4
105.0	4215	3869	4561	8.2	2.5	3.3
110.0	3580	3281	3880	8.4	2.6	3.2
115.0	3050	2791	3310	8.5	2.7	3.2
120.0	2607	2381	2832	8.7	2.8	3.1
125.0	2233	2037	2430	8.8	2.9	3.0
130.0	1919	1747	2090	8.9	3.0	3.0
135.0	1652	1502	1801	9.1	3.1	2.9
140.0	1425	1294	1556	9.2	3.2	2.9
145.0	1237	1121	1352	9.3	3.3	2.8
150.0	1076	974.0	1178	9.5	3.4	2.8

EPCOS

Temperature measurement	B57891
Leaded NTCs, lead spacing 2.5 mm	S891

Cautions and warnings

General

See "Important notes" at the end of this document.

Storage

- Store thermistors only in original packaging. Do not open the package before storage.
- Storage conditions in original packaging: storage temperature −25 °C ... +45 °C, relative humidity ≤75% annual mean, maximum 95%, dew precipitation is inadmissible.
- Do not store SMDs where they are exposed to heat or direct sunlight. Otherwise, the packing material may be deformed or SMDs may stick together, causing problems during mounting.
- Avoid contamination of thermistors surface during storage, handling and processing.
- Avoid storage of thermistor in harmful environments like corrosive gases (SOx, Cl etc).
- After opening the factory seals, such as polyvinyl-sealed packages, use the SMDs as soon as possible.
- Solder thermistors after shipment from EPCOS within the time specified:
  SMDs: 12 months
  Leaded components: 24 months

Handling

- NTC thermistors must not be dropped. Chip-offs must not be caused during handling of NTCs.
- Components must not be touched with bare hands. Gloves are recommended.
- Avoid contamination of thermistor surface during handling.

Soldering

- Use resin-type flux or non-activated flux.
- Insufficient preheating may cause ceramic cracks.
- Rapid cooling by dipping in solvent is not recommended.
- Complete removal of flux is recommended.

Mounting

- When NTC thermistors are encapsulated with sealing material or overmolded with plastic material, the precautions given in chapter “Mounting instructions”, “Sealing, potting and overmolding” must be observed.
- Electrode must not be scratched before/during/after the mounting process.
- Contacts and housings used for assembly with thermistor have to be clean before mounting.
- During operation, the thermistor’s surface temperature can be very high (ICL). Ensure that adjacent components are placed at a sufficient distance from the thermistor to allow for proper cooling ot the thermistors.
- Ensure that adjacent materials are designed for operation at temperatures comparable to the surface temperature of the thermistor. Be sure that surrounding parts and materials can withstand this temperature.
- Make sure that thermistors (ICLs) are adequately ventilated to avoid overheating.
- Avoid contamination of thermistor surface during processing.

Operation

- Use thermistors only within the specified operating temperature range.
- Use thermistors only within the specified voltage and current ranges (ICLs).
- Environmental conditions must not harm the thermistors. Use thermistors only in normal atmospheric conditions.
- Contact of NTC thermistors with any liquids and solvents should be prevented. It must be ensured that no water enters the NTC thermistor (e.g. through plug terminals). For measurement purposes (checking the specified resistance vs. temperature), the component must not be immersed in water but in suitable liquids (e.g. Galden).
- Avoid dewing and condensation.
- Be sure to provide an appropriate fail-safe function to prevent secondary product damage caused by malfunction (e.g. use VDR for limitation of overvoltage condition).

Important notes

The following applies to all products named in this publication:

1. Some parts of this publication contain **statements about the suitability of our products for certain areas of application**. These statements are based on our knowledge of typical requirements that are often placed on our products in the areas of application concerned. We nevertheless expressly point out **that such statements cannot be regarded as binding statements about the suitability of our products for a particular customer application**. As a rule, EPCOS is either unfamiliar with individual customer applications or less familiar with them than the customers themselves. For these reasons, it is always ultimately incumbent on the customer to check and decide whether an EPCOS product with the properties described in the product specification is suitable for use in a particular customer application.
2. We also point out that **in individual cases, a malfunction of passive electronic components or failure before the end of their usual service life cannot be completely ruled out in the current state of the art, even if they are operated as specified**. In customer applications requiring a very high level of operational safety and especially in customer applications in which the malfunction or failure of a passive electronic component could endanger human life or health (e.g. in accident prevention or life-saving systems), it must therefore be ensured by means of suitable design of the customer application or other action taken by the customer (e.g. installation of protective circuitry or redundancy) that no injury or damage is sustained by third parties in the event of malfunction or failure of a passive electronic component.
3. **The warnings, cautions and product-specific notes must be observed**.
4. In order to satisfy certain technical requirements, **some of the products described in this publication may contain substances subject to restrictions in certain jurisdictions (e.g. because they are classed as "hazardous")**. Useful information on this will be found in our Material Data Sheets on the Internet (www.epcos.com/material). Should you have any more detailed questions, please contact our sales offices.
5. We constantly strive to improve our products. Consequently, **the products described in this publication may change from time to time**. The same is true of the corresponding product specifications. Please check therefore to what extent product descriptions and specifications contained in this publication are still applicable before or when you place an order.

   We also **reserve the right to discontinue production and delivery of products**. Consequently, we cannot guarantee that all products named in this publication will always be available.
6. Unless otherwise agreed in individual contracts, **all orders are subject to the current version of the "General Terms of Delivery for Products and Services in the Electrical Industry" published by the German Electrical and Electronics Industry Association (ZVEI)**.
7. The trade names EPCOS, EPCOS-JONES, Baoke, CeraDiode, CSSP, MLSC, PhaseCap, PhaseMod, SIFI, SIKOREL, SilverCap, SIMID, SIOV, SIP5D, SIP5K, UltraCap, WindCap are **trademarks registered or pending** in Europe and in other countries. Further information will be found on the Internet at www.epcos.com/trademarks.