

# NRNE

## Epoxy sealed radial lead NTC thermistor



### Product features

- Epoxy sealed radial NTC thermistor
- Temperature compensation
- 3 millimeter disk type
- Wide resistance range 0.9 kΩ to 470 kΩ
- Non-linear change in resistance vs temperature

### Packaging information

- Bulk: 500 parts per poly bag

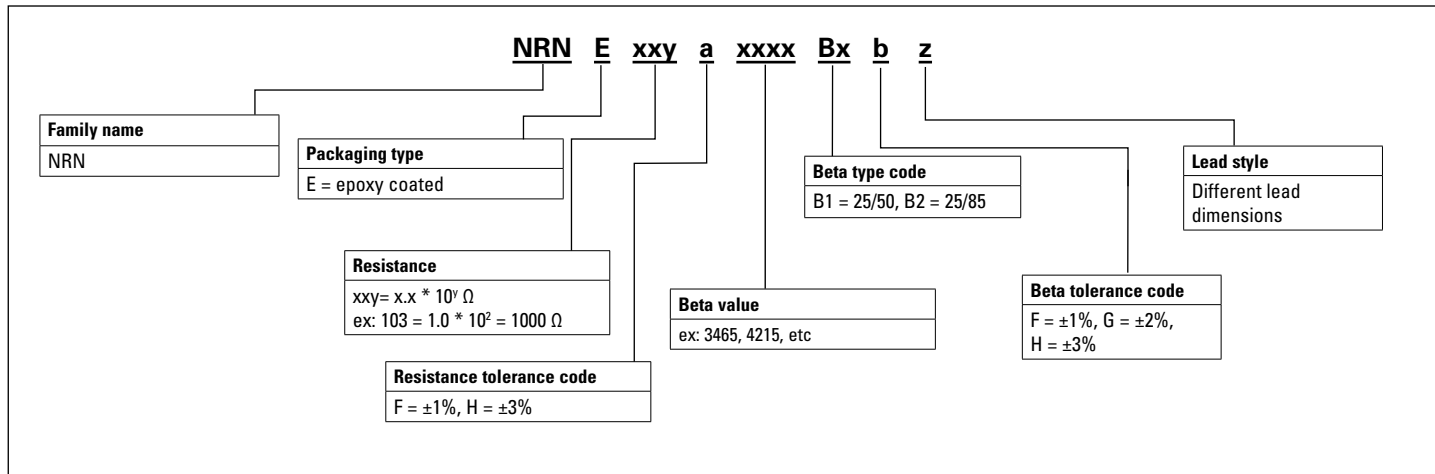
### Applications

- Industrial Process Control
- Commercial appliances
- Battery, supercapacitor and energy storage systems
- Uninterruptible power supplies
- Consumer appliances
- Medical devices
- Heating, ventilation and air conditioning, Refrigeration (HVACR)
- Food service equipment
- IoT
- White goods/household appliances
- Computer and peripheral products

### Environmental compliance and general specifications



Table 1. Part numbering

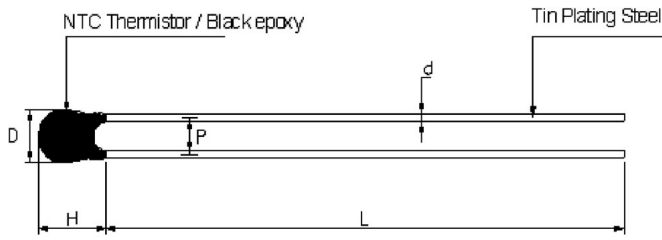


See electrical specification table for option details



Powering Business Worldwide

**Mechanical parameters- mm**

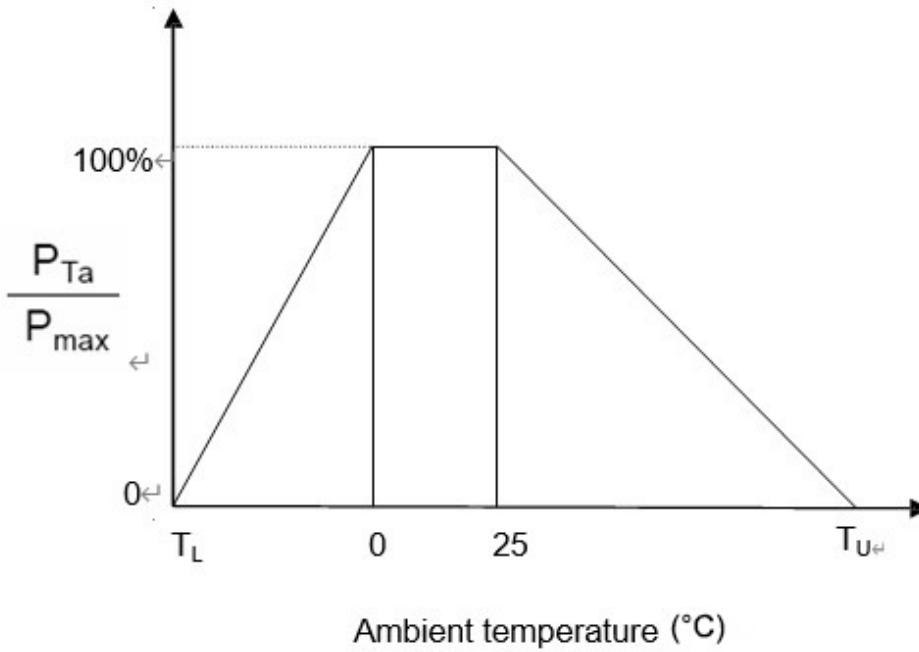


Leads: Tin plated copper clad steel

**Millimeters**

Dimension	Value
P	2.0 ± 0.7
D maximum	2.6
H maximum	5
d	0.35 ± 0.05
L minimum	6.5

**Power derating curve**



$T_U$ : Upper limit of working temperature (°C)

$T_L$ : Lower limit of working temperature (°C)

Example:

Ambient temperature ( $T_a$ )= 55 °C

Upper limit of working temperature  $T_U$ =125 °C

$$P_{Ta} = (T_U - T_a) / (T_U - 25) \times P_{max} = 70\% P_{max}$$

Note:  $P_{Ta}$  calculation for temperatures > 25 °C

Electrical specifications

Part number	Zero power resistance @ 25°C R <sub>25</sub> (kΩ)	R <sub>25</sub> Tolerance (Part number code)	Beta type (Part number code)	Beta value (K)	Beta tolerance (Part number code)	Maximum power @ +25°C P <sub>max</sub> (mW)	Dissipation factor (mW/°C)	Thermal time constant T (second)	Operation temperature TL-TU(°C)
NRNE902axxxxBxb	0.9	±1% (F), ±3% (H)	25/85 (B2)	3930	±2% (G), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE103axxxxBxb	1	±1% (F), ±3% (H)	25/85 (B2)	3935	±2% (G), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE153axxxxBxb	1.5	±1% (F), ±3% (H)	25/85 (B2)	3935	±2% (G), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE203axxxxBxb	2.0	±1% (F), ±3% (H)	25/50 (B1)	3500	±2% (G), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE223axxxxBxb	2.2	±1% (F), ±3% (H)	25/50 (B1)	3950	±2% (G), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE273axxxxBxb	2.7	±1% (F), ±3% (H)	25/50 (B1)	3950	±2% (G), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE303axxxxBxb	3.0	±1% (F), ±3% (H)	25/50 (B1)	3950	±2% (G), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE333axxxxBxb	3.3	±1% (F), ±3% (H)	25/50 (B1)	3950	±2% (G), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE473axxxxBxb	4.7	±1% (F), ±3% (H)	25/50 (B1)	3950	±1% (F), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE483axxxxBxb	4.8	±1% (F), ±3% (H)	25/50 (B1)	3950	±1% (F), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE503axxxxBxb	5.0	±1% (F), ±3% (H)	25/50 (B1)	3950	±1% (F), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE683axxxxBxb	6.8	±1% (F), ±3% (H)	25/50 (B1)	3950	±1% (F), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE104axxxxBxb	10	±1% (F), ±3% (H)	25/85 (B2)	3435	±1% (F), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE104axxxxBxb	10	±1% (F), ±3% (H)	25/50 (B1)	3720	±1% (F), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE104axxxxBxb	10	±1% (F), ±3% (H)	25/50 (B1)	3950	±1% (F), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE124axxxxBxb	12	±1% (F), ±3% (H)	25/50 (B1)	3720	±1% (F), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE154axxxxBxb	15	±1% (F), ±3% (H)	25/50 (B1)	3720	±1% (F), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE204axxxxBxb	20	±1% (F), ±3% (H)	25/85 (B2)	3740	±1% (F), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE204axxxxBxb	20	±1% (F), ±3% (H)	25/85 (B2)	4260	±1% (F), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE224axxxxBxb	22	±1% (F), ±3% (H)	25/85 (B2)	3740	±1% (F), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE334axxxxBxb	33	±1% (F), ±3% (H)	25/85 (B2)	4090	±1% (F), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE474axxxxBxb	47	±1% (F), ±3% (H)	25/85 (B2)	4090	±1% (F), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE474axxxxBxb	47	±1% (F), ±3% (H)	25/50 (B1)	3950	±1% (F), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE504axxxxBxb	50	±1% (F), ±3% (H)	25/85 (B2)	3975	±1% (F), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE504axxxxBxb	50	±1% (F), ±3% (H)	25/85 (B2)	4050	±1% (F), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE504axxxxBxb	50	±1% (F), ±3% (H)	25/50 (B1)	4400	±1% (F), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE684axxxxBxb	68	±1% (F), ±3% (H)	25/85 (B2)	4190	±1% (F), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE105axxxxBxb	100	±1% (F), ±3% (H)	25/50 (B1)	4100	±1% (F), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE105axxxxBxb	100	±1% (F), ±3% (H)	25/85 (B2)	4360	±1% (F), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE155axxxxBxb	150	±1% (F), ±3% (H)	25/85 (B2)	4370	±1% (F), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE205axxxxBxb	200	±1% (F), ±3% (H)	25/85 (B2)	3900	±1% (F), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE225axxxxBxb	220	±1% (F), ±3% (H)	25/85 (B2)	4370	±1% (F), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE335axxxxBxb	330	±1% (F), ±3% (H)	25/85 (B2)	4570	±1% (F), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE475axxxxBxb	470	±1% (F), ±3% (H)	25/85 (B2)	4570	±1% (F), ±3% (H)	150	≥ 3.5	≤ 8	-40 to +125
NRNE475axxxxBxb	470	±1% (F), ±3% (H)	25/85 (B2)	5200	±2% (G)	150	≥ 3.5	≤ 8	-40 to +125
NRNE435axxxxBxb	430	±1% (F), ±3% (H)	25/50 (B1)	5070	±2% (G)	150	≥ 3.5	≤ 8	-40 to +125
NRNE475axxxxBxb	470	±1% (F), ±3% (H)	25/50 (B1)	5200	±2% (G)	150	≥ 3.5	≤ 8	-40 to +125

a= Enter resistance tolerance code from table above (F = ±1%, H = ±3%)

Bx= Enter Beta code from table above (B1 = 25/50, B2 = 25/85)

b= Enter Beta tolerance code from table above (F = ±1%, G = ±2%, H = ±3%)

Temperature characteristics

Part number	NRNE902 3930	NRNE103 3935	NRNE153 3935	NRNE203 3500	NRNE223 3950	NRNE273 3950	NRNE303 3950	NRNE333 3950	NRNE473 3950	NRNE483 3950
B type	B25/85	B25/85	B25/85	B25/50	B25/50	B25/50	B25/50	B25/50	B25/50	B25/50
Temperature (°C)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)
-40	31	33	50	44	75	90	100	110	170	160
-39	29.18	31.11	46.95	41.6	70.29	84.4	93.77	103.14	158.84	149.98
-38	27.47	29.33	44.1	39.35	65.89	79.18	87.96	96.74	148.49	140.64
-37	25.87	27.66	41.44	37.22	61.79	74.31	82.54	90.77	138.87	131.93
-36	24.36	26.09	38.94	35.23	57.97	69.76	77.48	85.2	129.93	123.81
-35	22.94	24.6	36.61	33.34	54.41	65.51	72.75	80	121.63	116.23
-34	21.61	23.2	34.42	31.57	51.08	61.54	68.34	75.14	113.91	109.15
-33	20.36	21.89	32.38	29.9	47.97	57.83	64.22	70.6	106.72	102.54
-32	19.18	20.65	30.46	28.32	45.06	54.36	60.36	66.36	100.03	96.36
-31	18.07	19.48	28.66	26.84	42.35	51.12	56.76	62.39	93.8	90.59
-30	17.03	18.38	26.98	25.43	39.81	48.08	53.38	58.69	88	85.19
-29	16.05	17.35	25.4	24.11	37.44	45.24	50.23	55.22	82.6	80.15
-28	15.13	16.37	23.93	22.87	35.22	42.59	47.28	51.97	77.55	75.43
-27	14.26	15.45	22.54	21.69	33.14	40.1	44.52	48.93	72.85	71.01
-26	13.45	14.59	21.24	20.58	31.2	37.77	41.93	46.08	68.46	66.87
-25	12.68	13.77	20.02	19.53	29.38	35.59	39.5	43.42	64.36	63
-24	11.96	13.01	18.88	18.54	27.68	33.54	37.23	40.92	60.54	59.37
-23	11.29	12.28	17.8	17.61	26.08	31.62	35.1	38.58	56.96	55.97
-22	10.65	11.6	16.8	16.72	24.59	29.82	33.1	36.38	53.62	52.79
-21	10.05	10.96	15.85	15.89	23.19	28.14	31.23	34.33	50.49	49.8
-20	9.49	10.35	14.96	15.1	21.87	26.55	29.47	32.39	47.57	46.99
-19	8.95	9.78	14.12	14.35	20.64	25.07	27.83	30.58	44.83	44.36
-18	8.45	9.25	13.34	13.65	19.48	23.67	26.28	28.88	42.27	41.9
-17	7.98	8.74	12.6	12.98	18.39	22.36	24.82	27.28	39.87	39.58
-16	7.54	8.26	11.91	12.35	17.37	21.13	23.46	25.78	37.62	37.4
-15	7.12	7.81	11.26	11.75	16.42	19.97	22.17	24.37	35.51	35.35
-14	6.73	7.39	10.64	11.19	15.52	18.89	20.97	23.04	33.53	33.43
-13	6.36	6.99	10.07	10.65	14.67	17.86	19.83	21.8	31.67	31.62
-12	6.01	6.61	9.52	10.14	13.88	16.9	18.76	20.62	29.93	29.92
-11	5.69	6.25	9.01	9.66	13.13	16	17.76	19.52	28.3	28.32
-10	5.38	5.92	8.53	9.21	12.43	15.15	16.81	18.48	26.76	26.81
-9	5.09	5.6	8.08	8.77	11.76	14.34	15.92	17.5	25.32	25.4
-8	4.81	5.3	7.65	8.37	11.14	13.59	15.09	16.58	23.96	24.06
-7	4.56	5.02	7.25	7.98	10.55	12.88	14.3	15.71	22.69	22.81
-6	4.31	4.76	6.87	7.61	10	12.21	13.55	14.9	21.49	21.62
-5	4.08	4.51	6.51	7.26	9.48	11.58	12.85	14.13	20.36	20.5
-4	3.87	4.27	6.17	6.93	8.99	10.98	12.19	13.4	19.29	19.45
-3	3.66	4.05	5.86	6.61	8.53	10.42	11.57	12.72	18.29	18.46
-2	3.47	3.84	5.56	6.32	8.09	9.89	10.98	12.07	17.35	17.52
-1	3.29	3.64	5.27	6.03	7.68	9.39	10.42	11.46	16.46	16.64
0	3.12	3.45	5.01	5.76	7.29	8.92	9.9	10.88	15.62	15.8
1	2.96	3.27	4.75	5.51	6.93	8.47	9.4	10.34	14.83	15.01
2	2.8	3.11	4.52	5.26	6.58	8.05	8.94	9.83	14.09	14.27
3	2.66	2.95	4.29	5.03	6.25	7.65	8.5	9.34	13.38	13.57
4	2.52	2.8	4.08	4.81	5.94	7.27	8.08	8.88	12.72	12.9
5	2.4	2.66	3.88	4.61	5.65	6.92	7.68	8.45	12.09	12.27
6	2.28	2.52	3.69	4.41	5.38	6.58	7.31	8.04	11.5	11.68
7	2.16	2.4	3.51	4.22	5.12	6.27	6.96	7.65	10.94	11.11
8	2.05	2.28	3.34	4.04	4.87	5.96	6.62	7.28	10.41	10.58
9	1.95	2.17	3.18	3.87	4.64	5.68	6.31	6.94	9.91	10.08
10	1.86	2.06	3.02	3.7	4.42	5.41	6.01	6.61	9.44	9.6
11	1.76	1.96	2.88	3.55	4.21	5.15	5.73	6.3	8.99	9.15
12	1.68	1.86	2.74	3.4	4.01	4.91	5.46	6	8.57	8.72
13	1.6	1.77	2.62	3.26	3.82	4.68	5.2	5.72	8.17	8.32
14	1.52	1.69	2.49	3.13	3.64	4.47	4.96	5.46	7.79	7.93
15	1.45	1.61	2.38	3	3.48	4.26	4.73	5.21	7.43	7.57
16	1.38	1.53	2.27	2.88	3.32	4.07	4.52	4.97	7.08	7.22
17	1.31	1.46	2.16	2.76	3.16	3.88	4.31	4.74	6.76	6.89
18	1.25	1.39	2.06	2.65	3.02	3.71	4.12	4.53	6.45	6.58

Temperature characteristics, cont.

Part number	NRNE902 3930	NRNE103 3935	NRNE153 3935	NRNE203 3500	NRNE223 3950	NRNE273 3950	NRNE303 3950	NRNE333 3950	NRNE473 3950	NRNE483 3950
B type	B25/85	B25/85	B25/85	B25/50	B25/50	B25/50	B25/50	B25/50	B25/50	B25/50
Temperature (°C)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)
19	1.19	1.32	1.97	2.54	2.88	3.54	3.93	4.32	6.16	6.29
20	1.14	1.26	1.88	2.44	2.76	3.38	3.76	4.13	5.89	6.01
21	1.08	1.2	1.8	2.34	2.63	3.23	3.59	3.95	5.62	5.74
22	1.03	1.15	1.72	2.25	2.52	3.09	3.43	3.77	5.37	5.49
23	0.9871	1.1	1.64	2.16	2.41	2.95	3.28	3.61	5.14	5.25
24	0.9424	1.05	1.57	2.08	2.3	2.82	3.14	3.45	4.91	5.02
25	0.9	1	1.5	2	2.2	2.7	3	3.3	4.7	4.8
26	0.8598	0.9553	1.43	1.92	2.1	2.58	2.87	3.16	4.5	4.59
27	0.8216	0.9129	1.37	1.85	2.01	2.47	2.75	3.02	4.3	4.4
28	0.7854	0.8726	1.31	1.78	1.93	2.37	2.63	2.89	4.12	4.21
29	0.751	0.8343	1.26	1.71	1.85	2.27	2.52	2.77	3.95	4.03
30	0.7183	0.798	1.2	1.65	1.77	2.17	2.41	2.65	3.78	3.86
31	0.6873	0.7635	1.15	1.59	1.69	2.08	2.31	2.54	3.62	3.7
32	0.6578	0.7308	1.11	1.53	1.62	1.99	2.22	2.44	3.47	3.55
33	0.6298	0.6996	1.06	1.47	1.56	1.91	2.12	2.34	3.33	3.4
34	0.6032	0.67	1.02	1.42	1.49	1.83	2.04	2.24	3.19	3.26
35	0.5779	0.6418	0.9736	1.37	1.43	1.76	1.95	2.15	3.06	3.13
36	0.5538	0.6151	0.9339	1.32	1.37	1.69	1.87	2.06	2.94	3
37	0.5309	0.5896	0.896	1.27	1.32	1.62	1.8	1.98	2.82	2.88
38	0.5091	0.5653	0.8598	1.23	1.27	1.55	1.73	1.9	2.7	2.76
39	0.4884	0.5423	0.8254	1.18	1.21	1.49	1.66	1.82	2.6	2.65
40	0.4686	0.5203	0.7925	1.14	1.17	1.43	1.59	1.75	2.49	2.55
41	0.4498	0.4994	0.7612	1.1	1.12	1.38	1.53	1.68	2.4	2.45
42	0.4319	0.4794	0.7313	1.06	1.08	1.32	1.47	1.62	2.3	2.35
43	0.4148	0.4604	0.7027	1.03	1.04	1.27	1.41	1.55	2.21	2.26
44	0.3985	0.4423	0.6755	0.9901	0.995	1.22	1.36	1.49	2.13	2.17
45	0.383	0.425	0.6494	0.9563	0.9568	1.17	1.31	1.44	2.04	2.09
46	0.3682	0.4086	0.6246	0.9239	0.9202	1.13	1.26	1.38	1.97	2.01
47	0.3541	0.3929	0.6008	0.8927	0.8853	1.09	1.21	1.33	1.89	1.93
48	0.3406	0.3779	0.5781	0.8628	0.8519	1.05	1.16	1.28	1.82	1.86
49	0.3278	0.3636	0.5564	0.8341	0.82	1.01	1.12	1.23	1.75	1.79
50	0.3155	0.3499	0.5356	0.8065	0.7894	0.9688	1.08	1.18	1.69	1.72
51	0.3038	0.3369	0.5158	0.78	0.7602	0.9329	1.04	1.14	1.62	1.66
52	0.2925	0.3244	0.4968	0.7545	0.7322	0.8985	0.9982	1.1	1.56	1.6
53	0.2818	0.3125	0.4786	0.73	0.7054	0.8656	0.9616	1.06	1.51	1.54
54	0.2716	0.3012	0.4612	0.7064	0.6798	0.8341	0.9266	1.02	1.45	1.48
55	0.2618	0.2903	0.4446	0.6838	0.6552	0.8039	0.893	0.9823	1.4	1.43
56	0.2525	0.2799	0.4286	0.662	0.6317	0.775	0.8609	0.9469	1.35	1.38
57	0.2435	0.2699	0.4134	0.641	0.6092	0.7473	0.8301	0.913	1.3	1.33
58	0.2349	0.2604	0.3987	0.6208	0.5875	0.7207	0.8006	0.8805	1.25	1.28
59	0.2267	0.2513	0.3847	0.6014	0.5668	0.6952	0.7723	0.8494	1.21	1.23
60	0.2189	0.2426	0.3713	0.5827	0.547	0.6708	0.7451	0.8195	1.17	1.19
61	0.2114	0.2342	0.3584	0.5647	0.5279	0.6474	0.7191	0.7908	1.13	1.15
62	0.2042	0.2262	0.346	0.5474	0.5097	0.625	0.6941	0.7634	1.09	1.11
63	0.1972	0.2186	0.3342	0.5307	0.4922	0.6034	0.6702	0.737	1.05	1.07
64	0.1906	0.2112	0.3228	0.5146	0.4753	0.5828	0.6472	0.7117	1.01	1.03
65	0.1843	0.2042	0.3119	0.4991	0.4592	0.5629	0.6251	0.6874	0.979	0.9985
66	0.1782	0.1974	0.3015	0.4841	0.4437	0.5439	0.6039	0.6641	0.9458	0.9645
67	0.1724	0.1909	0.2914	0.4697	0.4288	0.5256	0.5836	0.6417	0.9139	0.9318
68	0.1668	0.1847	0.2817	0.4558	0.4145	0.508	0.564	0.6201	0.8832	0.9005
69	0.1614	0.1788	0.2725	0.4424	0.4008	0.4911	0.5452	0.5995	0.8537	0.8703
70	0.1562	0.173	0.2636	0.4295	0.3876	0.4749	0.5272	0.5796	0.8254	0.8414
71	0.1513	0.1675	0.255	0.417	0.3749	0.4593	0.5099	0.5605	0.7982	0.8135
72	0.1465	0.1623	0.2468	0.405	0.3627	0.4443	0.4932	0.5422	0.772	0.7868
73	0.1419	0.1572	0.2389	0.3934	0.3509	0.4299	0.4772	0.5245	0.7468	0.761
74	0.1375	0.1523	0.2313	0.3822	0.3397	0.416	0.4617	0.5075	0.7226	0.7363
75	0.1333	0.1476	0.224	0.3714	0.3288	0.4027	0.4469	0.4912	0.6993	0.7125
76	0.1292	0.1431	0.2169	0.3609	0.3184	0.3898	0.4326	0.4755	0.6769	0.6896
77	0.1253	0.1388	0.2102	0.3509	0.3083	0.3775	0.4189	0.4604	0.6553	0.6676

Temperature characteristics, cont.

Part number	NRNE902 3930	NRNE103 3935	NRNE153 3935	NRNE203 3500	NRNE223 3950	NRNE273 3950	NRNE303 3950	NRNE333 3950	NRNE473 3950	NRNE483 3950
B type	B25/85	B25/85	B25/85	B25/50	B25/50	B25/50	B25/50	B25/50	B25/50	B25/50
Temperature (°C)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)
78	0.1216	0.1346	0.2036	0.3411	0.2987	0.3656	0.4057	0.4458	0.6345	0.6463
79	0.118	0.1306	0.1974	0.3317	0.2893	0.3542	0.393	0.4318	0.6145	0.6259
80	0.1145	0.1268	0.1913	0.3226	0.2804	0.3432	0.3807	0.4183	0.5953	0.6063
81	0.1111	0.123	0.1855	0.3138	0.2717	0.3325	0.3689	0.4054	0.5767	0.5873
82	0.1079	0.1195	0.1799	0.3053	0.2634	0.3223	0.3575	0.3928	0.5588	0.5691
83	0.1048	0.116	0.1745	0.2971	0.2554	0.3125	0.3466	0.3808	0.5416	0.5515
84	0.1018	0.1127	0.1693	0.2891	0.2477	0.303	0.336	0.3692	0.525	0.5346
85	0.0989	0.1095	0.1643	0.2814	0.2402	0.2938	0.3259	0.358	0.509	0.5183
86	0.0961	0.1064	0.1595	0.274	0.233	0.285	0.3161	0.3472	0.4936	0.5025
87	0.0934	0.1034	0.1548	0.2668	0.2261	0.2765	0.3066	0.3368	0.4787	0.4874
88	0.0908	0.1006	0.1503	0.2598	0.2194	0.2683	0.2975	0.3267	0.4644	0.4727
89	0.0883	0.0978	0.146	0.2531	0.213	0.2604	0.2887	0.3171	0.4506	0.4586
90	0.0859	0.0951	0.1418	0.2466	0.2068	0.2528	0.2802	0.3077	0.4372	0.445
91	0.0836	0.0926	0.1378	0.2402	0.2008	0.2454	0.272	0.2987	0.4243	0.4319
92	0.0814	0.0901	0.1339	0.2341	0.195	0.2383	0.2641	0.29	0.4119	0.4192
93	0.0792	0.0877	0.1301	0.2282	0.1894	0.2314	0.2565	0.2816	0.3999	0.407
94	0.0771	0.0854	0.1265	0.2224	0.184	0.2248	0.2491	0.2735	0.3883	0.3952
95	0.0751	0.0831	0.123	0.2169	0.1788	0.2184	0.242	0.2657	0.3771	0.3838
96	0.0731	0.081	0.1196	0.2115	0.1738	0.2123	0.2352	0.2581	0.3663	0.3728
97	0.0712	0.0789	0.1163	0.2063	0.1689	0.2063	0.2285	0.2508	0.3559	0.3622
98	0.0694	0.0769	0.1131	0.2012	0.1642	0.2005	0.2221	0.2438	0.3458	0.3519
99	0.0676	0.0749	0.1101	0.1963	0.1597	0.1949	0.2159	0.237	0.336	0.342
100	0.0659	0.073	0.1071	0.1915	0.1553	0.1896	0.21	0.2304	0.3266	0.3324
101	0.0643	0.0712	0.1043	0.1869	0.151	0.1844	0.2042	0.224	0.3175	0.3231
102	0.0627	0.0694	0.1015	0.1824	0.1469	0.1793	0.1986	0.2179	0.3087	0.3141
103	0.0611	0.0677	0.0988	0.1781	0.143	0.1745	0.1932	0.2119	0.3002	0.3055
104	0.0596	0.0661	0.0963	0.1739	0.1391	0.1698	0.1879	0.2062	0.2919	0.2971
105	0.0582	0.0645	0.0938	0.1698	0.1354	0.1652	0.1829	0.2006	0.284	0.289
106	0.0568	0.0629	0.0913	0.1658	0.1318	0.1608	0.178	0.1952	0.2763	0.2812
107	0.0554	0.0614	0.089	0.162	0.1284	0.1565	0.1732	0.19	0.2688	0.2736
108	0.0541	0.06	0.0867	0.1582	0.125	0.1524	0.1687	0.1849	0.2616	0.2662
109	0.0529	0.0586	0.0845	0.1546	0.1217	0.1484	0.1642	0.1801	0.2546	0.2591
110	0.0516	0.0572	0.0824	0.1511	0.1186	0.1445	0.1599	0.1753	0.2478	0.2523
111	0.0504	0.0559	0.0803	0.1476	0.1155	0.1408	0.1558	0.1708	0.2413	0.2456
112	0.0493	0.0546	0.0783	0.1443	0.1126	0.1372	0.1517	0.1663	0.235	0.2392
113	0.0481	0.0533	0.0764	0.1411	0.1097	0.1337	0.1478	0.162	0.2288	0.2329
114	0.047	0.0521	0.0745	0.1379	0.1069	0.1303	0.144	0.1579	0.2229	0.2269
115	0.046	0.051	0.0727	0.1349	0.1042	0.127	0.1404	0.1538	0.2171	0.221
116	0.045	0.0498	0.071	0.1319	0.1016	0.1238	0.1368	0.1499	0.2115	0.2153
117	0.044	0.0487	0.0692	0.129	0.0991	0.1207	0.1334	0.1462	0.2061	0.2098
118	0.043	0.0477	0.0676	0.1262	0.0966	0.1177	0.1301	0.1425	0.2008	0.2045
119	0.042	0.0466	0.066	0.1235	0.0943	0.1148	0.1268	0.1389	0.1958	0.1993
120	0.0411	0.0456	0.0644	0.1208	0.0919	0.1119	0.1237	0.1355	0.1908	0.1943
121	0.0403	0.0446	0.0629	0.1182	0.0897	0.1092	0.1207	0.1321	0.186	0.1895
122	0.0394	0.0437	0.0614	0.1157	0.0875	0.1065	0.1177	0.1289	0.1814	0.1848
123	0.0386	0.0428	0.06	0.1133	0.0854	0.104	0.1148	0.1258	0.1769	0.1802
124	0.0377	0.0419	0.0586	0.1109	0.0834	0.1015	0.1121	0.1227	0.1725	0.1758
125	0.037	0.041	0.0573	0.1086	0.0814	0.099	0.1094	0.1197	0.1683	0.1715

Temperature characteristics

Part number	NRNE503 3950	NRNE683 3950	NRNE104 3435	NRNE104 3720	NRNE104 3950	NRNE124 3720	NRNE154 3720	NRNE204 3740	NRNE204 4260	NRNE224 3740
B type	B25/50	B25/50	B25/85	B25/50	B25/50	B25/50	B25/50	B25/85	B25/85	B25/85
Temperature (°C)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)
-40	175	210	190	255	320	300	400	500	840	550
-39	163.73	197.37	180.11	240.39	300.31	282.99	376.44	471.43	783.86	518.56
-38	153.25	185.55	170.79	226.7	281.92	267.03	354.4	444.65	731.78	489.07
-37	143.5	174.49	161.99	213.85	264.76	252.04	333.76	419.51	683.44	461.42
-36	134.42	164.15	153.69	201.79	248.73	237.96	314.45	395.93	638.55	435.47
-35	125.97	154.46	145.86	190.47	233.75	224.74	296.35	373.79	596.85	411.1
-34	118.11	145.39	138.46	179.84	219.74	212.32	279.39	353	558.1	388.23
-33	110.78	136.89	131.47	169.85	206.65	200.64	263.5	333.48	522.08	366.75
-32	103.94	128.93	124.87	160.47	194.4	189.66	248.6	315.13	488.58	346.56
-31	97.57	121.47	118.63	151.65	182.95	179.33	234.62	297.89	457.4	327.59
-30	91.62	114.48	112.74	143.36	172.22	169.61	221.5	281.67	428.39	309.75
-29	86.08	107.92	107.16	135.57	162.18	160.47	209.19	266.43	401.37	292.98
-28	80.9	101.77	101.89	128.24	152.78	151.87	197.63	252.08	376.21	277.2
-27	76.06	95.99	96.9	121.33	143.96	143.76	186.77	238.58	352.75	262.35
-26	71.54	90.57	92.19	114.84	135.71	136.13	176.57	225.87	330.89	248.37
-25	67.31	85.48	87.72	108.72	127.96	128.94	166.98	213.91	310.5	235.21
-24	63.36	80.71	83.49	102.97	120.7	122.17	157.96	202.63	291.48	222.82
-23	59.66	76.22	79.49	97.54	113.89	115.78	149.48	192.01	273.72	211.14
-22	56.2	72	75.7	92.43	107.5	109.76	141.5	182	257.15	200.13
-21	52.96	68.04	72.11	87.61	101.5	104.08	133.99	172.57	241.66	189.75
-20	49.93	64.31	68.7	83.06	95.87	98.72	126.92	163.67	227.2	179.97
-19	47.09	60.8	65.48	78.78	90.57	93.67	120.26	155.27	213.67	170.73
-18	44.43	57.51	62.42	74.74	85.6	88.89	113.99	147.35	201.03	162.02
-17	41.93	54.4	59.52	70.92	80.93	84.39	108.08	139.88	189.2	153.8
-16	39.59	51.48	56.77	67.32	76.53	80.13	102.51	132.82	178.14	146.04
-15	37.39	48.73	54.16	63.92	72.4	76.11	97.25	126.15	167.78	138.71
-14	35.32	46.14	51.68	60.71	68.51	72.31	92.29	119.85	158.08	131.79
-13	33.39	43.7	49.33	57.67	64.85	68.72	87.62	113.9	148.99	125.24
-12	31.57	41.4	47.09	54.81	61.41	65.33	83.2	108.28	140.48	119.06
-11	29.86	39.24	44.97	52.1	58.16	62.12	79.04	102.96	132.49	113.21
-10	28.25	37.2	42.96	49.54	55.11	59.08	75.1	97.93	125.01	107.68
-9	26.74	35.27	41.04	47.11	52.23	56.21	71.38	93.17	117.99	102.45
-8	25.32	33.45	39.22	44.82	49.52	53.49	67.87	88.67	111.4	97.5
-7	23.98	31.74	37.49	42.65	46.96	50.92	64.55	84.41	105.21	92.82
-6	22.72	30.12	35.85	40.6	44.54	48.48	61.4	80.37	99.4	88.38
-5	21.53	28.59	34.28	38.65	42.27	46.17	58.43	76.55	93.95	84.18
-4	20.42	27.15	32.79	36.81	40.12	43.98	55.62	72.93	88.82	80.2
-3	19.36	25.79	31.38	35.07	38.09	41.91	52.96	69.5	84	76.43
-2	18.37	24.5	30.03	33.42	36.18	39.94	50.44	66.25	79.47	72.85
-1	17.44	23.28	28.75	31.85	34.37	38.08	48.06	63.17	75.21	69.46
0	16.56	22.13	27.52	30.37	32.66	36.32	45.8	60.25	71.2	66.25
1	15.72	21.04	26.36	28.96	31.05	34.64	43.66	57.47	67.43	63.2
2	14.94	20.02	25.25	27.62	29.52	33.05	41.63	54.84	63.87	60.31
3	14.19	19.04	24.2	26.36	28.08	31.54	39.71	52.35	60.52	57.56
4	13.49	18.12	23.19	25.15	26.72	30.11	37.88	49.98	57.37	54.96
5	12.83	17.25	22.23	24.01	25.42	28.75	36.15	47.73	54.4	52.48
6	12.21	16.42	21.31	22.93	24.2	27.46	34.51	45.59	51.6	50.13
7	11.61	15.64	20.44	21.9	23.05	26.23	32.95	43.56	48.95	47.9
8	11.06	14.9	19.61	20.92	21.95	25.06	31.47	41.63	46.46	45.78
9	10.53	14.2	18.81	20	20.91	23.95	30.07	39.79	44.11	43.76
10	10.03	13.54	18.05	19.11	19.93	22.9	28.73	38.05	41.89	41.85
11	9.55	12.9	17.33	18.27	19	21.9	27.47	36.39	39.79	40.02
12	9.1	12.31	16.64	17.48	18.12	20.94	26.26	34.81	37.81	38.29
13	8.68	11.74	15.98	16.72	17.28	20.04	25.11	33.31	35.94	36.64
14	8.27	11.2	15.35	15.99	16.49	19.17	24.03	31.88	34.17	35.07
15	7.89	10.69	14.75	15.31	15.73	18.35	22.99	30.52	32.5	33.57
16	7.53	10.21	14.17	14.65	15.02	17.57	22	29.23	30.92	32.15
17	7.19	9.75	13.62	14.03	14.34	16.83	21.07	28	29.43	30.79
18	6.86	9.31	13.1	13.44	13.69	16.12	20.17	26.82	28.01	29.5

Temperature characteristics, cont.

Part number	NRNE503 3950	NRNE683 3950	NRNE104 3435	NRNE104 3720	NRNE104 3950	NRNE124 3720	NRNE154 3720	NRNE204 3740	NRNE204 4260	NRNE224 3740
B type	B25/50	B25/50	B25/85	B25/50	B25/50	B25/50	B25/50	B25/85	B25/85	B25/85
Temperature (°C)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)
19	6.55	8.89	12.59	12.87	13.08	15.44	19.32	25.7	26.67	28.27
20	6.26	8.5	12.11	12.34	12.5	14.8	18.51	24.64	25.41	27.1
21	5.98	8.12	11.65	11.82	11.95	14.18	17.74	23.62	24.2	25.98
22	5.72	7.77	11.21	11.33	11.42	13.6	17.01	22.65	23.07	24.91
23	5.47	7.43	10.79	10.87	10.93	13.04	16.3	21.72	21.99	23.9
24	5.23	7.11	10.39	10.42	10.45	12.51	15.64	20.84	20.97	22.93
25	5	6.8	10	10	10	12	15	20	20	22
26	4.78	6.51	9.63	9.6	9.57	11.52	14.39	19.2	19.08	21.12
27	4.58	6.23	9.28	9.21	9.16	11.05	13.81	18.43	18.21	20.27
28	4.38	5.97	8.94	8.84	8.77	10.61	13.26	17.7	17.38	19.47
29	4.2	5.71	8.61	8.49	8.4	10.19	12.73	17	16.6	18.7
30	4.02	5.47	8.3	8.15	8.05	9.79	12.23	16.33	15.85	17.96
31	3.85	5.25	8	7.83	7.71	9.4	11.75	15.69	15.15	17.26
32	3.69	5.03	7.71	7.53	7.39	9.03	11.29	15.08	14.47	16.59
33	3.54	4.82	7.44	7.23	7.09	8.68	10.85	14.5	13.83	15.95
34	3.39	4.62	7.18	6.95	6.8	8.35	10.43	13.94	13.23	15.34
35	3.26	4.43	6.92	6.69	6.52	8.03	10.03	13.41	12.65	14.75
36	3.12	4.25	6.68	6.43	6.26	7.72	9.64	12.9	12.1	14.19
37	3	4.08	6.45	6.19	6	7.43	9.28	12.41	11.58	13.65
38	2.88	3.92	6.22	5.95	5.76	7.14	8.92	11.94	11.08	13.14
39	2.76	3.76	6.01	5.73	5.53	6.88	8.59	11.49	10.61	12.65
40	2.65	3.61	5.8	5.51	5.31	6.62	8.27	11.07	10.16	12.17
41	2.55	3.47	5.61	5.31	5.1	6.37	7.96	10.66	9.73	11.72
42	2.45	3.33	5.42	5.11	4.9	6.14	7.67	10.26	9.32	11.29
43	2.35	3.2	5.23	4.92	4.71	5.91	7.38	9.89	8.93	10.88
44	2.26	3.08	5.06	4.74	4.53	5.69	7.11	9.53	8.56	10.48
45	2.18	2.96	4.89	4.57	4.35	5.49	6.85	9.18	8.21	10.1
46	2.09	2.85	4.73	4.41	4.19	5.29	6.61	8.85	7.87	9.74
47	2.01	2.74	4.57	4.25	4.03	5.1	6.37	8.53	7.55	9.39
48	1.94	2.63	4.42	4.09	3.87	4.91	6.14	8.23	7.25	9.05
49	1.86	2.54	4.28	3.95	3.73	4.74	5.92	7.94	6.95	8.73
50	1.79	2.44	4.14	3.81	3.59	4.57	5.71	7.66	6.68	8.43
51	1.73	2.35	4	3.67	3.45	4.41	5.51	7.39	6.41	8.13
52	1.66	2.26	3.88	3.55	3.33	4.25	5.32	7.13	6.16	7.85
53	1.6	2.18	3.75	3.42	3.2	4.11	5.13	6.88	5.91	7.57
54	1.54	2.1	3.63	3.3	3.09	3.96	4.96	6.65	5.68	7.31
55	1.49	2.02	3.52	3.19	2.97	3.83	4.79	6.42	5.46	7.06
56	1.43	1.95	3.41	3.08	2.87	3.7	4.62	6.2	5.25	6.82
57	1.38	1.88	3.3	2.98	2.76	3.57	4.47	5.99	5.05	6.59
58	1.33	1.81	3.2	2.87	2.66	3.45	4.31	5.79	4.85	6.37
59	1.29	1.75	3.1	2.78	2.57	3.33	4.17	5.59	4.67	6.15
60	1.24	1.68	3	2.69	2.48	3.22	4.03	5.4	4.49	5.95
61	1.2	1.63	2.91	2.6	2.39	3.11	3.9	5.22	4.32	5.75
62	1.16	1.57	2.82	2.51	2.31	3.01	3.77	5.05	4.16	5.56
63	1.12	1.51	2.74	2.43	2.23	2.91	3.64	4.89	4	5.38
64	1.08	1.46	2.66	2.35	2.15	2.81	3.52	4.73	3.85	5.2
65	1.04	1.41	2.58	2.27	2.07	2.72	3.41	4.57	3.71	5.03
66	1.01	1.36	2.5	2.2	2	2.63	3.3	4.42	3.58	4.87
67	0.9714	1.32	2.43	2.13	1.93	2.55	3.19	4.28	3.45	4.71
68	0.9388	1.27	2.35	2.06	1.87	2.47	3.09	4.14	3.32	4.56
69	0.9074	1.23	2.29	1.99	1.81	2.39	2.99	4.01	3.2	4.41
70	0.8772	1.19	2.22	1.93	1.75	2.31	2.9	3.89	3.09	4.27
71	0.8483	1.15	2.15	1.87	1.69	2.24	2.81	3.76	2.98	4.14
72	0.8204	1.11	2.09	1.81	1.63	2.17	2.72	3.64	2.87	4.01
73	0.7936	1.07	2.03	1.75	1.58	2.1	2.63	3.53	2.77	3.88
74	0.7678	1.04	1.97	1.7	1.53	2.03	2.55	3.42	2.67	3.76
75	0.743	1	1.92	1.65	1.48	1.97	2.47	3.32	2.58	3.65
76	0.7192	0.9716	1.86	1.6	1.43	1.91	2.4	3.21	2.49	3.54
77	0.6962	0.9403	1.81	1.55	1.38	1.85	2.32	3.12	2.4	3.43



Temperature characteristics, cont.

Part number	NRNE503 3950	NRNE683 3950	NRNE104 3435	NRNE104 3720	NRNE104 3950	NRNE124 3720	NRNE154 3720	NRNE204 3740	NRNE204 4260	NRNE224 3740
B type	B25/50	B25/50	B25/85	B25/50	B25/50	B25/50	B25/50	B25/85	B25/85	B25/85
Temperature (°C)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)
78	0.6741	0.9102	1.76	1.5	1.34	1.8	2.25	3.02	2.32	3.32
79	0.6528	0.8812	1.71	1.46	1.29	1.74	2.19	2.93	2.24	3.22
80	0.6324	0.8533	1.67	1.41	1.25	1.69	2.12	2.84	2.16	3.13
81	0.6126	0.8264	1.62	1.37	1.21	1.64	2.06	2.76	2.09	3.03
82	0.5936	0.8005	1.58	1.33	1.18	1.59	2	2.67	2.02	2.94
83	0.5753	0.7756	1.53	1.29	1.14	1.54	1.94	2.6	1.95	2.86
84	0.5577	0.7516	1.49	1.25	1.1	1.5	1.88	2.52	1.89	2.77
85	0.5406	0.7285	1.45	1.21	1.07	1.45	1.82	2.45	1.83	2.69
86	0.5242	0.7062	1.41	1.18	1.04	1.41	1.77	2.37	1.77	2.61
87	0.5084	0.6847	1.37	1.15	1.01	1.37	1.72	2.31	1.71	2.54
88	0.4932	0.6639	1.34	1.11	0.9749	1.33	1.67	2.24	1.65	2.46
89	0.4785	0.6439	1.3	1.08	0.9454	1.29	1.62	2.17	1.6	2.39
90	0.4643	0.6247	1.27	1.05	0.917	1.26	1.58	2.11	1.55	2.32
91	0.4506	0.6061	1.24	1.02	0.8896	1.22	1.53	2.05	1.5	2.26
92	0.4374	0.5881	1.2	0.9916	0.8632	1.18	1.49	1.99	1.45	2.19
93	0.4246	0.5708	1.17	0.9638	0.8377	1.15	1.45	1.94	1.4	2.13
94	0.4123	0.5541	1.14	0.937	0.813	1.12	1.41	1.88	1.36	2.07
95	0.4004	0.538	1.11	0.9111	0.7893	1.09	1.37	1.83	1.32	2.02
96	0.3889	0.5224	1.09	0.886	0.7663	1.06	1.33	1.78	1.28	1.96
97	0.3778	0.5074	1.06	0.8617	0.7441	1.03	1.29	1.73	1.24	1.91
98	0.3671	0.4928	1.03	0.8383	0.7227	1	1.26	1.69	1.2	1.85
99	0.3567	0.4788	1.01	0.8156	0.7021	0.9736	1.23	1.64	1.16	1.8
100	0.3467	0.4653	0.9814	0.7936	0.6821	0.9472	1.19	1.6	1.13	1.75
101	0.337	0.4522	0.9572	0.7723	0.6628	0.9217	1.16	1.55	1.09	1.71
102	0.3277	0.4395	0.9337	0.7517	0.6441	0.897	1.13	1.51	1.06	1.66
103	0.3186	0.4273	0.9109	0.7318	0.6261	0.8731	1.1	1.47	1.03	1.62
104	0.3099	0.4154	0.8888	0.7125	0.6086	0.85	1.07	1.43	0.9961	1.57
105	0.3014	0.404	0.8674	0.6938	0.5918	0.8275	1.04	1.39	0.9664	1.53
106	0.2932	0.3929	0.8465	0.6757	0.5755	0.8058	1.01	1.36	0.9378	1.49
107	0.2853	0.3822	0.8263	0.6582	0.5597	0.7848	0.9884	1.32	0.9102	1.45
108	0.2777	0.3719	0.8067	0.6412	0.5444	0.7644	0.9628	1.29	0.8835	1.42
109	0.2702	0.3619	0.7876	0.6247	0.5297	0.7447	0.9381	1.25	0.8578	1.38
110	0.2631	0.3522	0.7691	0.6087	0.5154	0.7256	0.914	1.22	0.8329	1.34
111	0.2561	0.3428	0.7511	0.5933	0.5015	0.707	0.8908	1.19	0.8088	1.31
112	0.2494	0.3337	0.7336	0.5783	0.4882	0.689	0.8682	1.16	0.7856	1.28
113	0.2428	0.3249	0.7166	0.5637	0.4752	0.6716	0.8463	1.13	0.7632	1.24
114	0.2365	0.3164	0.7001	0.5496	0.4627	0.6547	0.8251	1.1	0.7415	1.21
115	0.2304	0.3082	0.684	0.536	0.4505	0.6383	0.8045	1.07	0.7206	1.18
116	0.2245	0.3002	0.6685	0.5227	0.4387	0.6224	0.7845	1.05	0.7003	1.15
117	0.2187	0.2924	0.6533	0.5098	0.4273	0.607	0.7652	1.02	0.6807	1.12
118	0.2132	0.2849	0.6386	0.4974	0.4163	0.5921	0.7464	0.9964	0.6618	1.1
119	0.2078	0.2777	0.6242	0.4852	0.4056	0.5776	0.7281	0.9719	0.6434	1.07
120	0.2025	0.2706	0.6103	0.4735	0.3952	0.5635	0.7104	0.9482	0.6257	1.04
121	0.1975	0.2638	0.5967	0.4621	0.3851	0.5498	0.6932	0.9251	0.6086	1.02
122	0.1925	0.2572	0.5836	0.451	0.3754	0.5366	0.6766	0.9027	0.592	0.9921
123	0.1878	0.2508	0.5707	0.4402	0.3659	0.5237	0.6604	0.881	0.5759	0.9681
124	0.1831	0.2446	0.5582	0.4298	0.3568	0.5112	0.6446	0.8599	0.5604	0.9449
125	0.1786	0.2385	0.5461	0.4196	0.3479	0.499	0.6293	0.8394	0.5453	0.9224

Temperature characteristics

Part number	NRNE334 4090	NRNE474 3950	NRNE474 4090	NRNE504 3975	NRNE504 4050	NRNE504 4400	NRNE684 4190	NRNE105 4100	NRNE105 4360	NRNE155 4370
B type	B25/85	B25/50	B25/85	B25/85	B25/85	B25/50	B25/85	B25/50	B25/85	B25/85
Temperature (°C)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)
-40	1000	1500	1500	1550	1600	2550	2100	3000	4000	5500
-39	940.76	1407.2	1408.74	1455.11	1501.84	2368.87	1975.85	2824.83	3740.84	5156.73
-38	885.29	1320.63	1323.47	1366.54	1410.2	2201.67	1859.57	2660.61	3499.72	4836.41
-37	833.33	1239.86	1243.77	1283.82	1324.62	2047.25	1750.61	2506.6	3275.32	4537.4
-36	784.64	1164.46	1169.25	1206.56	1244.66	1904.56	1648.5	2362.14	3066.4	4258.21
-35	739.02	1094.06	1099.55	1134.35	1169.94	1772.65	1552.77	2226.6	2871.82	3997.43
-34	696.25	1028.29	1034.34	1066.85	1100.08	1650.65	1463	2099.39	2690.53	3753.77
-33	656.14	966.83	973.32	1003.72	1034.74	1537.76	1378.79	1979.96	2521.57	3526.04
-32	618.52	909.37	916.18	944.66	973.62	1433.25	1299.79	1867.82	2364.04	3313.13
-31	583.22	855.63	862.68	889.39	916.42	1336.45	1225.64	1762.49	2217.11	3114.02
-30	550.09	805.36	812.56	837.65	862.86	1246.76	1156.03	1663.52	2080.03	2927.76
-29	518.99	758.32	765.59	789.19	812.71	1163.6	1090.67	1570.52	1952.09	2753.46
-28	489.78	714.27	721.56	743.79	765.73	1086.48	1029.28	1483.1	1832.64	2590.31
-27	462.35	673.02	680.27	701.24	721.7	1014.92	971.6	1400.9	1721.08	2437.54
-26	436.57	634.37	641.55	661.36	680.42	948.49	917.4	1323.59	1616.86	2294.46
-25	412.35	598.15	605.22	623.95	641.72	886.79	866.45	1250.87	1519.45	2160.41
-24	389.57	564.19	571.12	588.86	605.41	829.46	818.54	1182.43	1428.38	2034.79
-23	368.16	532.35	539.1	555.92	571.34	776.17	773.48	1118.02	1343.22	1917.02
-22	348.02	502.47	509.04	525	539.36	726.62	731.09	1057.39	1263.54	1806.59
-21	329.06	474.43	480.79	495.97	509.34	680.51	691.21	1000.28	1188.98	1703.01
-20	311.23	448.1	454.25	468.69	481.13	637.6	653.66	946.5	1119.18	1605.83
-19	294.44	423.38	429.31	443.06	454.63	597.64	618.32	895.83	1053.82	1514.62
-18	278.63	400.15	405.85	418.97	429.73	560.42	585.03	848.08	992.59	1428.99
-17	263.74	378.32	383.79	396.31	406.32	525.73	553.68	803.06	935.22	1348.59
-16	249.72	357.8	363.03	375	384.3	493.39	524.14	760.63	881.44	1273.06
-15	236.5	338.5	343.5	354.95	363.58	463.22	496.3	720.61	831.02	1202.1
-14	224.04	320.35	325.11	336.07	344.09	435.08	470.06	682.85	783.72	1135.41
-13	212.29	303.26	307.8	318.3	325.74	408.8	445.32	647.24	739.35	1072.71
-12	201.21	287.18	291.49	301.57	308.46	384.27	421.98	613.62	697.7	1013.75
-11	190.76	272.04	276.13	285.8	292.19	361.34	399.97	581.89	658.61	958.29
-10	180.9	257.78	261.65	270.94	276.85	339.92	379.19	551.93	621.89	906.12
-9	171.6	244.34	248	256.93	262.4	319.89	359.59	523.64	587.4	857.01
-8	162.81	231.68	235.12	243.71	248.78	301.15	341.08	496.91	554.99	810.78
-7	154.51	219.73	222.98	231.25	235.94	283.62	323.6	471.66	524.53	767.25
-6	146.68	208.47	211.53	219.49	223.82	267.21	307.1	447.79	495.89	726.26
-5	139.28	197.85	200.71	208.39	212.39	251.85	291.5	425.23	468.95	687.63
-4	132.28	187.82	190.51	197.91	201.59	237.45	276.77	403.9	443.6	651.23
-3	125.67	178.35	180.87	188.02	191.41	223.96	262.84	383.73	419.75	616.92
-2	119.41	169.42	171.77	178.67	181.78	211.31	249.67	364.65	397.3	584.57
-1	113.5	160.97	163.17	169.83	172.69	199.45	237.22	346.6	376.16	554.06
0	107.91	153	155.04	161.48	164.11	188.33	225.44	329.51	356.24	525.27
1	102.62	145.46	147.36	153.58	155.99	177.88	214.3	313.34	337.48	498.11
2	97.61	138.33	140.09	146.11	148.31	168.08	203.76	298.03	319.8	472.48
3	92.87	131.59	133.22	139.04	141.05	158.87	193.78	283.53	303.12	448.28
4	88.38	125.22	126.72	132.35	134.19	150.22	184.33	269.8	287.4	425.42
5	84.13	119.18	120.57	126.02	127.69	142.09	175.39	256.79	272.58	403.83
6	80.1	113.47	114.74	120.03	121.54	134.44	166.91	244.46	258.58	383.44
7	76.29	108.07	109.23	114.35	115.72	127.25	158.89	232.77	245.38	364.16
8	72.67	102.95	104.01	108.97	110.21	120.49	151.28	221.69	232.91	345.94
9	69.24	98.1	99.06	103.87	104.98	114.12	144.07	211.19	221.14	328.72
10	65.99	93.5	94.37	99.04	100.03	108.12	137.24	201.22	210.02	312.43
11	62.91	89.15	89.93	94.45	95.34	102.48	130.76	191.77	199.52	297.01
12	59.99	85.02	85.72	90.11	90.9	97.16	124.61	182.8	189.59	282.43
13	57.21	81.1	81.73	85.98	86.68	92.14	118.78	174.29	180.2	268.63
14	54.58	77.38	77.94	82.07	82.68	87.42	113.25	166.21	171.33	255.56
15	52.08	73.86	74.35	78.35	78.89	82.96	108	158.54	162.93	243.19
16	49.7	70.51	70.94	74.83	75.29	78.75	103.01	151.26	154.99	231.47
17	47.45	67.34	67.7	71.48	71.87	74.79	98.28	144.34	147.47	220.37
18	45.31	64.32	64.63	68.29	68.62	71.04	93.79	137.77	140.35	209.86

Temperature characteristics, cont.

Part number	NRNE334 4090	NRNE474 3950	NRNE474 4090	NRNE504 3975	NRNE504 4050	NRNE504 4400	NRNE684 4190	NRNE105 4100	NRNE105 4360	NRNE155 4370
B type	B25/85	B25/50	B25/85	B25/85	B25/85	B25/50	B25/85	B25/50	B25/85	B25/85
Temperature (°C)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)
19	43.27	61.45	61.71	65.27	65.54	67.5	89.52	131.52	133.62	199.89
20	41.34	58.73	58.93	62.39	62.61	64.16	85.46	125.58	127.23	190.44
21	39.5	56.14	56.3	59.66	59.83	61	81.61	119.94	121.19	181.48
22	37.75	53.68	53.8	57.06	57.18	58.02	77.94	114.58	115.46	172.98
23	36.09	51.34	51.42	54.59	54.67	55.19	74.46	109.47	110.03	164.91
24	34.5	49.12	49.15	52.24	52.27	52.53	71.15	104.62	104.88	157.26
25	33	47	47	50	50	50	68	100	100	150
26	31.57	44.99	44.95	47.87	47.84	47.61	65	95.61	95.37	143.11
27	30.2	43.07	43	45.84	45.78	45.35	62.15	91.42	90.98	136.56
28	28.91	41.24	41.15	43.91	43.82	43.21	59.44	87.44	86.81	130.34
29	27.67	39.5	39.39	42.07	41.95	41.18	56.86	83.65	82.85	124.44
30	26.49	37.85	37.7	40.31	40.17	39.25	54.4	80.04	79.09	118.83
31	25.37	36.27	36.1	38.64	38.48	37.43	52.05	76.6	75.52	113.49
32	24.3	34.76	34.58	37.05	36.87	35.7	49.82	73.32	72.13	108.42
33	23.28	33.33	33.13	35.53	35.33	34.06	47.7	70.2	68.9	103.6
34	22.31	31.96	31.74	34.08	33.86	32.51	45.67	67.22	65.84	99.02
35	21.39	30.66	30.42	32.69	32.47	31.03	43.74	64.38	62.93	94.66
36	20.5	29.42	29.16	31.37	31.13	29.64	41.9	61.68	60.16	90.51
37	19.66	28.23	27.96	30.12	29.86	28.31	40.15	59.1	57.53	86.56
38	18.86	27.1	26.82	28.91	28.65	27.04	38.48	56.64	55.02	82.8
39	18.09	26.01	25.73	27.76	27.49	25.84	36.88	54.29	52.64	79.22
40	17.36	24.98	24.68	26.67	26.39	24.71	35.36	52.05	50.37	75.81
41	16.66	24	23.69	25.62	25.33	23.62	33.91	49.91	48.21	72.57
42	15.99	23.05	22.74	24.62	24.33	22.59	32.52	47.87	46.15	69.48
43	15.35	22.15	21.83	23.66	23.36	21.61	31.2	45.92	44.19	66.53
44	14.75	21.29	20.96	22.75	22.44	20.68	29.93	44.06	42.33	63.72
45	14.16	20.47	20.14	21.87	21.57	19.8	28.73	42.28	40.55	61.05
46	13.61	19.68	19.34	21.04	20.73	18.95	27.57	40.58	38.85	58.5
47	13.08	18.93	18.59	20.24	19.92	18.15	26.47	38.96	37.24	56.06
48	12.57	18.21	17.87	19.47	19.16	17.39	25.42	37.41	35.7	53.74
49	12.08	17.52	17.17	18.74	18.42	16.66	24.41	35.93	34.23	51.53
50	11.62	16.86	16.51	18.04	17.72	15.96	23.45	34.51	32.83	49.41
51	11.17	16.23	15.88	17.36	17.05	15.3	22.53	33.16	31.49	47.4
52	10.75	15.63	15.28	16.72	16.4	14.67	21.65	31.86	30.21	45.47
53	10.34	15.05	14.7	16.11	15.79	14.07	20.81	30.62	28.99	43.63
54	9.95	14.5	14.14	15.52	15.2	13.5	20.01	29.44	27.83	41.88
55	9.57	13.97	13.61	14.95	14.63	12.95	19.24	28.3	26.72	40.2
56	9.22	13.46	13.1	14.41	14.09	12.43	18.5	27.22	25.66	38.6
57	8.87	12.97	12.62	13.89	13.58	11.93	17.8	26.18	24.64	37.06
58	8.55	12.5	12.15	13.39	13.08	11.46	17.12	25.18	23.67	35.6
59	8.23	12.06	11.71	12.91	12.6	11	16.48	24.23	22.75	34.2
60	7.93	11.63	11.28	12.45	12.15	10.57	15.86	23.31	21.86	32.86
61	7.64	11.21	10.87	12.01	11.71	10.15	15.27	22.44	21.01	31.58
62	7.36	10.82	10.47	11.59	11.29	9.76	14.7	21.6	20.2	30.36
63	7.1	10.44	10.1	11.19	10.89	9.38	14.16	20.8	19.43	29.19
64	6.84	10.07	9.74	10.8	10.5	9.02	13.63	20.03	18.69	28.07
65	6.6	9.73	9.39	10.43	10.13	8.67	13.13	19.29	17.98	27
66	6.37	9.39	9.06	10.07	9.78	8.34	12.65	18.59	17.3	25.97
67	6.14	9.07	8.74	9.72	9.44	8.03	12.2	17.91	16.65	24.99
68	5.93	8.76	8.43	9.39	9.11	7.72	11.75	17.26	16.03	24.05
69	5.72	8.46	8.14	9.07	8.79	7.43	11.33	16.63	15.43	23.15
70	5.52	8.17	7.85	8.77	8.49	7.16	10.93	16.04	14.86	22.28
71	5.33	7.9	7.58	8.47	8.2	6.89	10.54	15.46	14.31	21.46
72	5.14	7.63	7.32	8.19	7.92	6.64	10.16	14.91	13.79	20.66
73	4.97	7.38	7.07	7.92	7.66	6.39	9.8	14.38	13.28	19.9
74	4.8	7.14	6.83	7.66	7.4	6.16	9.46	13.87	12.8	19.17
75	4.64	6.9	6.6	7.41	7.15	5.94	9.13	13.39	12.34	18.48
76	4.48	6.68	6.38	7.17	6.91	5.72	8.81	12.92	11.9	17.81
77	4.33	6.46	6.16	6.93	6.68	5.52	8.51	12.47	11.47	17.16

Temperature characteristics, cont.

Part number	NRNE334 4090	NRNE474 3950	NRNE474 4090	NRNE504 3975	NRNE504 4050	NRNE504 4400	NRNE684 4190	NRNE105 4100	NRNE105 4360	NRNE155 4370
B type	B25/85	B25/50	B25/85	B25/85	B25/85	B25/50	B25/85	B25/50	B25/85	B25/85
Temperature (°C)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)
78	4.18	6.25	5.96	6.71	6.46	5.32	8.21	12.03	11.06	16.55
79	4.05	6.05	5.76	6.49	6.25	5.13	7.93	11.62	10.67	15.96
80	3.91	5.85	5.57	6.29	6.05	4.95	7.66	11.22	10.3	15.39
81	3.78	5.67	5.39	6.09	5.85	4.78	7.4	10.84	9.94	14.84
82	3.66	5.49	5.21	5.89	5.66	4.61	7.15	10.47	9.59	14.32
83	3.54	5.31	5.04	5.71	5.48	4.45	6.91	10.11	9.26	13.82
84	3.43	5.15	4.88	5.53	5.31	4.3	6.68	9.77	8.94	13.34
85	3.31	4.99	4.72	5.36	5.14	4.15	6.46	9.44	8.63	12.87
86	3.21	4.83	4.57	5.19	4.97	4.01	6.24	9.13	8.34	12.43
87	3.11	4.68	4.42	5.03	4.82	3.87	6.04	8.82	8.05	12
88	3.01	4.54	4.28	4.88	4.67	3.74	5.84	8.53	7.78	11.59
89	2.91	4.4	4.15	4.73	4.52	3.61	5.65	8.25	7.52	11.19
90	2.82	4.26	4.02	4.58	4.38	3.49	5.46	7.98	7.27	10.81
91	2.73	4.14	3.89	4.45	4.25	3.37	5.29	7.72	7.02	10.45
92	2.65	4.01	3.77	4.31	4.12	3.26	5.12	7.47	6.79	10.1
93	2.57	3.89	3.66	4.18	3.99	3.16	4.95	7.23	6.57	9.76
94	2.49	3.77	3.54	4.06	3.87	3.05	4.8	7	6.35	9.44
95	2.41	3.66	3.43	3.94	3.75	2.95	4.64	6.77	6.14	9.12
96	2.34	3.55	3.33	3.82	3.64	2.86	4.5	6.56	5.94	8.82
97	2.27	3.45	3.23	3.71	3.53	2.76	4.35	6.35	5.75	8.53
98	2.2	3.35	3.13	3.6	3.42	2.68	4.22	6.15	5.57	8.25
99	2.13	3.25	3.04	3.5	3.32	2.59	4.09	5.95	5.39	7.99
100	2.07	3.16	2.95	3.4	3.23	2.51	3.96	5.77	5.22	7.73
101	2.01	3.07	2.86	3.3	3.13	2.43	3.84	5.59	5.05	7.48
102	1.95	2.98	2.78	3.21	3.04	2.35	3.72	5.41	4.89	7.24
103	1.89	2.89	2.69	3.11	2.95	2.28	3.61	5.25	4.74	7.01
104	1.83	2.81	2.61	3.03	2.87	2.21	3.5	5.09	4.59	6.78
105	1.78	2.73	2.54	2.94	2.78	2.14	3.39	4.93	4.45	6.57
106	1.73	2.66	2.47	2.86	2.7	2.07	3.29	4.78	4.31	6.36
107	1.68	2.58	2.39	2.78	2.63	2.01	3.19	4.64	4.18	6.16
108	1.63	2.51	2.33	2.7	2.55	1.95	3.1	4.5	4.05	5.97
109	1.58	2.44	2.26	2.63	2.48	1.89	3	4.36	3.92	5.79
110	1.54	2.37	2.2	2.56	2.41	1.83	2.91	4.23	3.81	5.61
111	1.5	2.31	2.13	2.49	2.34	1.78	2.83	4.1	3.69	5.44
112	1.45	2.25	2.07	2.42	2.28	1.72	2.75	3.98	3.58	5.27
113	1.41	2.18	2.02	2.35	2.22	1.67	2.67	3.87	3.47	5.11
114	1.37	2.13	1.96	2.29	2.15	1.62	2.59	3.75	3.37	4.95
115	1.34	2.07	1.9	2.23	2.1	1.57	2.51	3.64	3.27	4.8
116	1.3	2.01	1.85	2.17	2.04	1.53	2.44	3.54	3.17	4.66
117	1.26	1.96	1.8	2.11	1.98	1.48	2.37	3.43	3.08	4.52
118	1.23	1.91	1.75	2.06	1.93	1.44	2.3	3.34	2.99	4.39
119	1.19	1.86	1.7	2	1.88	1.4	2.24	3.24	2.9	4.26
120	1.16	1.81	1.66	1.95	1.83	1.36	2.18	3.15	2.82	4.13
121	1.13	1.76	1.61	1.9	1.78	1.32	2.12	3.06	2.74	4.01
122	1.1	1.72	1.57	1.85	1.73	1.28	2.06	2.97	2.66	3.89
123	1.07	1.67	1.53	1.8	1.69	1.25	2	2.89	2.58	3.78
124	1.04	1.63	1.49	1.76	1.64	1.21	1.94	2.81	2.51	3.67
125	1.02	1.59	1.45	1.71	1.6	1.18	1.89	2.73	2.44	3.56

Temperature characteristics

Part number	NRNE205 3900	NRNE225 4370	NRNE335 4570	NRNE435 5070	NRNE475 4570	NRNE475 5200	NRNE475 5200
B type	B25/85	B25/85	B25/85	B25/50	B25/85	B25/50	B25/85
Temperature (°C)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)
-40	5100	8000	18000	30000	23000	35000	33000
-39	4810.68	7501.72	16707.78	27813.28	21418.85	32429.84	30592.32
-38	4539.15	7036.69	15515.7	25795.25	19954.54	30058.74	28370.52
-37	4284.23	6602.57	14415.47	23932.22	18597.89	27870.55	26319.49
-36	4044.85	6197.16	13399.53	22211.67	17340.45	25850.43	24425.44
-35	3819.98	5818.45	12460.96	20622.12	16174.5	23984.86	22675.71
-34	3608.68	5464.57	11593.47	19153.07	15092.94	22261.41	21058.74
-33	3410.07	5133.78	10791.29	17794.91	14089.25	20668.71	19563.91
-32	3223.34	4824.49	10049.17	16538.83	13157.46	19196.35	18181.51
-31	3047.71	4535.2	9362.29	15376.74	12292.07	17834.79	16902.65
-30	2882.49	4264.55	8726.25	14301.23	11488.03	16575.25	15719.14
-29	2727	4011.25	8137.02	13305.51	10740.7	15409.72	14623.51
-28	2580.64	3774.12	7590.9	12383.34	10045.81	14330.82	13608.88
-27	2442.82	3552.06	7084.51	11528.99	9399.43	13331.78	12668.93
-26	2313.02	3344.05	6614.76	10737.22	8797.94	12406.38	11797.88
-25	2190.72	3149.14	6178.81	10003.17	8238.02	11548.94	10990.4
-24	2075.47	2966.46	5774.04	9322.42	7716.58	10754.19	10241.6
-23	1966.82	2795.18	5398.06	8690.89	7230.81	10017.31	9546.98
-22	1864.38	2634.55	5048.67	8104.82	6778.09	9333.89	8902.41
-21	1767.75	2483.86	4723.86	7560.75	6356.02	8699.82	8304.08
-20	1676.58	2342.46	4421.77	7055.52	5962.38	8111.38	7748.49
-19	1590.55	2209.74	4140.68	6586.19	5595.12	7565.09	7232.42
-18	1509.33	2085.12	3879.04	6150.07	5252.35	7057.79	6752.91
-17	1432.64	1968.08	3635.39	5744.68	4932.32	6586.55	6307.22
-16	1360.21	1858.13	3408.4	5367.74	4633.41	6148.66	5892.82
-15	1291.78	1754.81	3196.85	5017.13	4354.13	5741.64	5507.41
-14	1227.12	1657.69	2999.61	4690.91	4093.1	5363.2	5148.83
-13	1165.99	1566.38	2815.64	4387.28	3849.04	5011.22	4815.12
-12	1108.2	1480.5	2643.97	4104.6	3620.77	4683.76	4504.45
-11	1053.54	1399.71	2483.72	3841.34	3407.19	4379.02	4215.14
-10	1001.83	1323.68	2334.08	3596.08	3207.29	4095.33	3945.64
-9	952.9	1252.12	2194.27	3367.52	3020.12	3831.16	3694.51
-8	906.59	1184.75	2063.62	3154.47	2844.83	3585.09	3460.43
-7	862.75	1121.3	1941.47	2955.8	2680.59	3355.82	3242.17
-6	821.24	1061.53	1827.22	2770.48	2526.66	3142.14	3038.61
-5	781.91	1005.21	1720.32	2597.58	2382.34	2942.93	2848.69
-4	744.65	952.12	1620.27	2436.21	2247	2757.15	2671.45
-3	709.34	902.08	1526.59	2285.54	2120.03	2583.85	2505.98
-2	675.87	854.89	1438.84	2144.84	2000.86	2422.15	2351.47
-1	644.14	810.37	1356.62	2013.4	1889	2271.22	2207.14
0	614.04	768.37	1279.54	1890.58	1783.95	2130.3	2072.29
1	585.49	728.74	1207.27	1775.78	1685.27	1998.7	1946.25
2	558.4	691.32	1139.47	1668.44	1592.55	1875.77	1828.41
3	532.69	655.99	1075.85	1568.04	1505.39	1760.89	1718.21
4	508.29	622.62	1016.14	1474.12	1423.43	1653.52	1615.12
5	485.11	591.1	960.06	1386.22	1346.35	1553.13	1518.65
6	463.1	561.31	907.38	1303.95	1273.83	1459.25	1428.36
7	442.19	533.16	857.88	1226.9	1205.58	1371.42	1343.82
8	422.33	506.54	811.35	1154.75	1141.32	1289.23	1264.65
9	403.44	481.38	767.59	1087.14	1080.82	1212.31	1190.48
10	385.49	457.57	726.44	1023.78	1023.82	1140.29	1120.98
11	368.43	435.04	687.71	964.39	970.11	1072.85	1055.83
12	352.19	413.73	651.26	908.7	919.48	1009.67	994.75
13	336.75	393.55	616.93	856.47	871.75	950.46	937.46
14	322.06	374.45	584.6	807.46	826.74	894.98	883.72
15	308.07	356.36	554.14	761.47	784.27	842.96	833.29
16	294.76	339.23	525.43	718.29	744.2	794.18	785.95
17	282.08	322.99	498.36	677.75	706.37	748.42	741.51
18	270.01	307.6	472.83	639.68	670.65	705.48	699.77

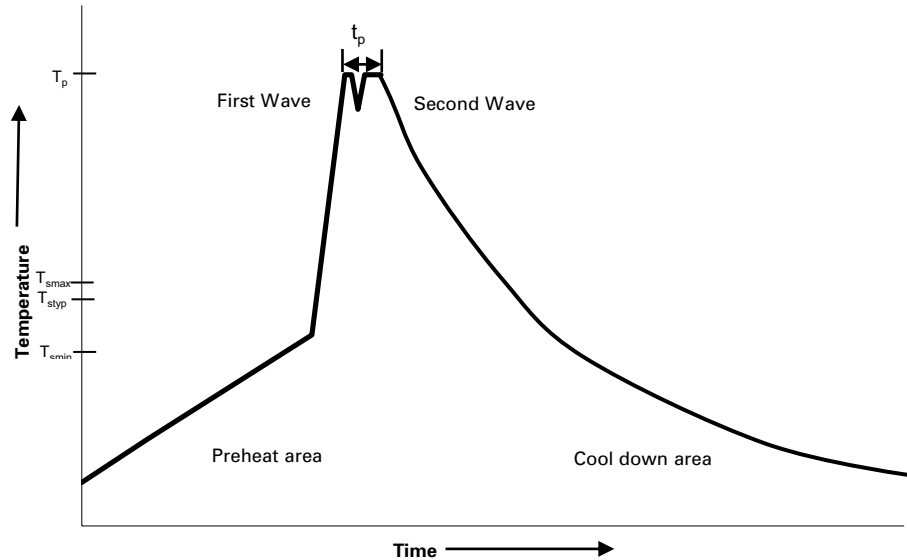
Temperature characteristics, cont.

Part number	NRNE205 3900	NRNE225 4370	NRNE335 4570	NRNE435 5070	NRNE475 4570	NRNE475 5200	NRNE475 5200
B type	B25/85	B25/85	B25/85	B25/50	B25/85	B25/50	B25/85
Temperature (°C)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)
19	258.51	293.02	448.75	603.91	636.92	665.19	660.56
20	247.56	279.19	426.02	570.29	605.05	627.36	623.71
21	237.12	266.08	404.57	538.69	574.93	591.84	589.08
22	227.17	253.64	384.31	508.97	546.46	558.48	556.52
23	217.68	241.83	365.17	481.03	519.55	527.14	525.9
24	208.63	230.63	347.09	454.74	494.09	497.69	497.1
25	200	220	330	430	470	470	470
26	191.77	209.91	313.84	406.71	447.21	443.97	444.49
27	183.91	200.32	298.56	384.79	425.63	419.49	420.48
28	176.41	191.21	284.11	364.14	405.2	396.46	397.87
29	169.26	182.56	270.43	344.7	385.86	374.79	376.57
30	162.42	174.34	257.48	326.37	367.53	354.39	356.51
31	155.9	166.53	245.22	309.1	350.16	335.2	337.6
32	149.66	159.1	233.61	292.82	333.7	317.12	319.78
33	143.71	152.03	222.61	277.46	318.09	300.09	302.97
34	138.01	145.31	212.18	262.98	303.29	284.04	287.12
35	132.58	138.92	202.3	249.32	289.25	268.93	272.17
36	127.37	132.84	192.93	236.43	275.93	254.68	258.06
37	122.4	127.05	184.05	224.26	263.29	241.24	244.75
38	117.65	121.54	175.62	212.77	251.29	228.57	232.18
39	113.1	116.29	167.62	201.92	239.9	216.62	220.31
40	108.75	111.29	160.02	191.66	229.07	205.34	209.1
41	104.58	106.53	152.81	181.98	218.79	194.7	198.51
42	100.6	102	145.97	172.83	209.02	184.66	188.5
43	96.78	97.68	139.46	164.17	199.74	175.17	179.04
44	93.13	93.56	133.28	155.99	190.91	166.22	170.09
45	89.63	89.63	127.4	148.25	182.51	157.75	161.63
46	86.28	85.89	121.82	140.93	174.53	149.76	153.63
47	83.07	82.32	116.51	134.01	166.93	142.2	146.06
48	80	78.91	111.45	127.45	159.7	135.06	138.9
49	77.05	75.66	106.65	121.25	152.82	128.31	132.12
50	74.22	72.56	102.07	115.37	146.27	121.92	125.7
51	71.51	69.59	97.71	109.8	140.03	115.88	119.62
52	68.91	66.77	93.57	104.53	134.09	110.16	113.86
53	66.42	64.07	89.62	99.54	128.43	104.75	108.4
54	64.03	61.49	85.85	94.8	123.03	99.63	103.23
55	61.74	59.03	82.27	90.31	117.89	94.78	98.33
56	59.54	56.67	78.85	86.05	112.99	90.19	93.68
57	57.43	54.43	75.59	82.02	108.31	85.84	89.27
58	55.4	52.28	72.49	78.19	103.85	81.71	85.09
59	53.45	50.22	69.52	74.55	99.6	77.81	81.12
60	51.59	48.26	66.7	71.1	95.54	74.11	77.36
61	49.79	46.38	64	67.83	91.66	70.59	73.79
62	48.07	44.58	61.42	64.72	87.96	67.27	70.39
63	46.41	42.86	58.96	61.77	84.43	64.11	67.17
64	44.82	41.21	56.62	58.96	81.06	61.11	64.11
65	43.29	39.64	54.37	56.29	77.84	58.27	61.2
66	41.82	38.13	52.23	53.76	74.76	55.57	58.44
67	40.4	36.69	50.19	51.35	71.81	53.01	55.82
68	39.04	35.3	48.23	49.06	69	50.57	53.32
69	37.73	33.98	46.36	46.89	66.31	48.26	50.95
70	36.47	32.71	44.57	44.82	63.74	46.07	48.69
71	35.26	31.5	42.86	42.85	61.28	43.98	46.54
72	34.1	30.33	41.22	40.97	58.93	42	44.5
73	32.98	29.21	39.66	39.19	56.68	40.11	42.56
74	31.9	28.14	38.16	37.49	54.52	38.32	40.71
75	30.86	27.12	36.73	35.87	52.46	36.62	38.94
76	29.86	26.13	35.35	34.33	50.49	35	37.27
77	28.9	25.19	34.04	32.86	48.6	33.46	35.67

Temperature characteristics, cont.

Part number	NRNE205 3900	NRNE225 4370	NRNE335 4570	NRNE435 5070	NRNE475 4570	NRNE475 5200	NRNE475 5200
B type	B25/85	B25/85	B25/85	B25/50	B25/85	B25/50	B25/85
Temperature (°C)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)	Resistance (kΩ)
78	27.97	24.28	32.78	31.46	46.78	31.99	34.14
79	27.07	23.41	31.57	30.13	45.05	30.59	32.69
80	26.21	22.58	30.41	28.86	43.39	29.26	31.31
81	25.38	21.78	29.31	27.65	41.79	28	29.99
82	24.58	21.01	28.24	26.49	40.26	26.79	28.73
83	23.81	20.27	27.23	25.39	38.8	25.64	27.54
84	23.07	19.56	26.25	24.34	37.4	24.55	26.39
85	22.35	18.88	25.31	23.34	36.05	23.5	25.3
86	21.66	18.23	24.41	22.38	34.76	22.51	24.26
87	20.99	17.6	23.55	21.47	33.52	21.56	23.27
88	20.35	16.99	22.72	20.6	32.33	20.66	22.32
89	19.73	16.41	21.93	19.76	31.19	19.8	21.41
90	19.13	15.86	21.16	18.97	30.09	18.97	20.55
91	18.55	15.32	20.43	18.21	29.04	18.19	19.72
92	17.99	14.8	19.73	17.48	28.03	17.44	18.93
93	17.46	14.31	19.05	16.79	27.05	16.73	18.18
94	16.94	13.83	18.4	16.13	26.12	16.05	17.46
95	16.43	13.37	17.78	15.49	25.23	15.39	16.77
96	15.95	12.93	17.18	14.89	24.36	14.77	16.11
97	15.48	12.5	16.6	14.31	23.54	14.18	15.48
98	15.03	12.09	16.04	13.75	22.74	13.61	14.88
99	14.59	11.7	15.51	13.22	21.97	13.07	14.3
100	14.17	11.32	15	12.71	21.24	12.55	13.75
101	13.76	10.95	14.5	12.23	20.53	12.05	13.22
102	13.36	10.6	14.03	11.76	19.85	11.58	12.72
103	12.98	10.26	13.57	11.32	19.19	11.13	12.23
104	12.61	9.93	13.13	10.89	18.56	10.69	11.77
105	12.25	9.62	12.7	10.48	17.96	10.28	11.33
106	11.91	9.31	12.3	10.09	17.37	9.88	10.9
107	11.57	9.02	11.9	9.71	16.81	9.5	10.49
108	11.25	8.74	11.52	9.35	16.27	9.14	10.1
109	10.94	8.47	11.16	9.01	15.74	8.79	9.73
110	10.64	8.2	10.81	8.68	15.24	8.46	9.37
111	10.34	7.95	10.47	8.36	14.76	8.14	9.03
112	10.06	7.71	10.14	8.06	14.29	7.83	8.7
113	9.78	7.47	9.83	7.77	13.84	7.54	8.38
114	9.52	7.24	9.52	7.49	13.41	7.26	8.08
115	9.26	7.02	9.23	7.22	12.99	6.99	7.79
116	9.01	6.81	8.95	6.96	12.58	6.73	7.51
117	8.77	6.61	8.68	6.71	12.19	6.48	7.24
118	8.54	6.41	8.41	6.48	11.82	6.25	6.99
119	8.31	6.22	8.16	6.25	11.46	6.02	6.74
120	8.09	6.03	7.91	6.03	11.11	5.8	6.5
121	7.88	5.86	7.68	5.82	10.77	5.59	6.27
122	7.67	5.68	7.45	5.62	10.45	5.39	6.06
123	7.47	5.52	7.23	5.42	10.13	5.2	5.85
124	7.28	5.36	7.02	5.24	9.83	5.01	5.64
125	7.09	5.2	6.81	5.06	9.54	4.84	5.45

### Wave solder profile



### Reference EN 61760-1:2006

Profile feature	Standard SnPb solder	Lead (Pb) free solder
Preheat	• Temperature min. ( $T_{smin}$ )	100 °C
	• Temperature typ. ( $T_{styp}$ )	120 °C
	• Temperature max. ( $T_{smax}$ )	130 °C
	• Time ( $T_{smin}$ to $T_{smax}$ ) ( $t_s$ )	70 seconds
$\Delta$ preheat to max Temperature	150 °C max.	150 °C max.
Peak temperature ( $T_p$ )*	235 °C – 260 °C	250 °C – 260 °C
Time at peak temperature ( $t_p$ )	10 seconds max 5 seconds max each wave	10 seconds max 5 seconds max each wave
Ramp-down rate	~ 2 K/s min ~3.5 K/s typ ~5 K/s max	~ 2 K/s min ~3.5 K/s typ ~5 K/s max
Time 25 °C to 25 °C	4 minutes	4 minutes

*Note: PCB surface should be at least 6 mm distance from the thermistor body to prevent parts damage.*

### Manual solder

+360 °C (2.5 seconds maximum by soldering iron, distance between soldering position and coating 2.5 mm minimum), generally manual/hand soldering is not recommended.

Life Support Policy: Eaton does not authorize the use of any of its products for use in life support devices or systems without the express written approval of an officer of the Company. Life support systems are devices which support or sustain life, and whose failure to perform, when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.

Eaton reserves the right, without notice, to change design or construction of any products and to discontinue or limit distribution of any products. Eaton also reserves the right to change or update, without notice, any technical information contained in this bulletin.

**Eaton**  
**Electronics Division**  
1000 Eaton Boulevard  
Cleveland, OH 44122  
United States  
Eaton.com/electronics

© 2022 Eaton  
All Rights Reserved  
Printed in USA  
Publication No. ELX1226 BU-ELX22086  
July 2022

Eaton is a registered trademark.  
All other trademarks are property of their respective owners.

Follow us on social media to get the latest product and support information.

