Temperature sensing element NTC 20k; $B_{25/85}$ = 4263

Basic technical parameters

Sensing element	Bead NTC thermistor
Working temperature range	-50 °C to 150°C *
Resistance at 25 °C	20 kΩ
Coefficient $\beta_{25/85}$	4263 ± 1%
Coefficient $\beta_{25/100}$	4285 ± 1%
Long-term resistance stability	0.03 % after 8760 h at t = 70 °C
Recommended / maximum DC input	0.05mW / 1mW
Sensor tolerance for 0 °C ≤ T ≤ 70 °C	± 1.0 °C

*The real range of working temperature of the sensor is given by the design and technology.

The temperature dependence of the sensing element resistance is expressed as follows:

$$T = [\ A + B * \ln R_T + C * (\ln R_T)^3\ ]^{-1}$$

where: $A = 1.152085338392319 * 10^{-3}$, $B = 2.13146276927388 * 10^{-4}$,

$C = 9.372336566006315 * 10^{-8}$

Dependence of resistance in Ω on temperature

°C	0	-1	-2	-3	-4	-5	-6	-7	-8	-9
-50	1666770									
-40	813620	872257	935550	1003900	1077750	1157590	1243930	1337350	1438490	1548050
-30	415717	443730	473829	506185	540982	578420	618719	662117	708873	759271
-20	221452	235430	250387	266397	283541	301909	321594	342700	365340	389635
-10	122556	129815	137552	145802	154602	163993	174018	184723	196160	208383
0	70242	74152	78305	82717	87407	92394	97698	103342	109348	115744

°C	0	1	2	3	4	5	6	7	8	9
0	70242	66560	63090	59821	56739	53832	51090	48503	46060	43754
10	41576	39517	37572	35733	33994	32348	30792	29318	27922	26601
20	25349	24162	23038	21971	20960	20000	19090	18225	17404	16625
30	15884	15181	14512	13876	13271	12695	12148	11627	11131	10659
40	10209	9780	9372	8982	8611	8257	7920	7597	7290	6997
50	6716	6449	6193	5949	5716	5493	5280	5076	4881	4694
60	4516	4345	4182	4025	3875	3732	3594	3462	3336	3215
70	3098	2987	2880	2778	2679	2585	2494	2407	2323	2243
80	2166	2092	2021	1952	1886	1823	1762	1704	1647	1593
90	1541	1491	1442	1396	1351	1308	1266	1226	1187	1150
100	1114	1080	1046	1014	983.0	953.1	924.1	896.2	869.3	843.3
110	818.1	793.9	770.5	747.8	726.0	704.8	684.4	664.7	645.6	627.1
120	609.3	592.0	575.4	559.2	543.6	528.5	513.8	499.7	486.0	472.7
130	459.9	447.4	435.4	423.7	412.4	401.4	390.8	380.5	370.5	360.8
140	351.4	342.3	333.5	324.9	316.4	308.6	300.8	293.2	285.8	278.7
150	271.7									

Application of sensing elements: These sensing elements are used by Honeywell on their older control systems. They can be often found as part of thermostats, digital thermometers, in testing equipment, in healthcare and in Honeywell computer technology.