

Temperature sensing element NTC 10k; $B_{25/85} = 3435$

Basic technical parameters

Sensing element	Bead NTC thermistor
Working temperature range	-40 to 125 °C *
Resistance at 25 °C	10 k Ω
Coefficient $\beta_{25/85}$	3435 \pm 1%
Coefficient $\beta_{25/100}$	3478 \pm 1%
Long-term resistance stability	\leq 3 % after 1000 h at 85 °C **
Recommended / maximum DC input	0.5 mW / 2 mW
Sensor tolerance	\pm 0.5 °C for t = 25 °C ** \pm 1.0 °C for t = 0 to 70 °C **

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

** These parameters depend on the specific type and design of the thermistor.

Dependence of resistance in k Ω on temperature

°C	0	-1	-2	-3	-4	-5	-6	-7	-8	-9
-40	210.514									
-30	121.737	128.421	135.513	143.038	151.025	159.505	168.510	178.075	188.237	199.036
-20	72.503	76.257	80.230	84.435	88.886	93.600	98.593	103.884	109.491	115.434
-10	44.476	46.642	48.928	51.340	53.888	56.578	59.420	62.423	65.598	68.954
0	28.081	29.366	30.717	32.140	33.638	35.216	36.878	38.630	40.476	42.423

°C	0	1	2	3	4	5	6	7	8	9
0	28.081	26.861	25.700	24.596	23.547	22.548	21.597	20.691	19.829	19.008
10	18.226	17.480	16.770	16.092	15.445	14.829	14.240	13.678	13.142	12.630
20	12.141	11.673	11.226	10.799	10.391	10.000	9.626	9.269	8.926	8.599
30	8.285	7.984	7.696	7.420	7.156	6.902	6.659	6.426	6.202	5.987
40	5.781	5.583	5.393	5.211	5.035	4.867	4.705	4.549	4.399	4.255
50	4.117	3.984	3.855	3.732	3.613	3.499	3.388	3.282	3.180	3.081
60	2.986	2.895	2.806	2.721	2.639	2.560	2.483	2.409	2.338	2.269
70	2.203	2.138	2.076	2.016	1.958	1.902	1.848	1.796	1.745	1.696
80	1.649	1.603	1.558	1.515	1.474	1.434	1.395	1.357	1.320	1.285
90	1.250	1.217	1.185	1.154	1.123	1.094	1.065	1.038	1.011	0.985
100	0.959	0.935	0.911	0.888	0.866	0.844	0.823	0.802	0.782	0.763
110	0.744	0.725	0.707	0.690	0.673	0.657	0.641	0.625	0.610	0.596
120	0.581	0.567	0.554	0.541	0.528	0.516				

Note 1: The resistance values **in bold** are taken from the table of the manufacturer of the bead thermistor, the other values are calculated by linear interpolation, with the error caused by calculation being one order of magnitude lower than the tolerance specified by the manufacturer.

Note 2: this type of sensing element is interchangeable with sensor NTC 10k; $\beta_{25/85} = 3455$ with a tolerance of \pm 1%