



1.6. Maximum ratings of temperature sensor

Power rating at 25°C: 32 mW

1.7. Data of temperature sensor

Specified temperature range: -40 to +140°C

Operating voltage: Operation with a 3.16 kΩ series resistor at 5 V in the control unit

Nominal resistance at 20 °C: 2.482 kΩ ± 4.7 % (new part)

Temperature response time τ_{63} in oil bath : ≤ 9 s

1.8. Characteristic of temperature sensor

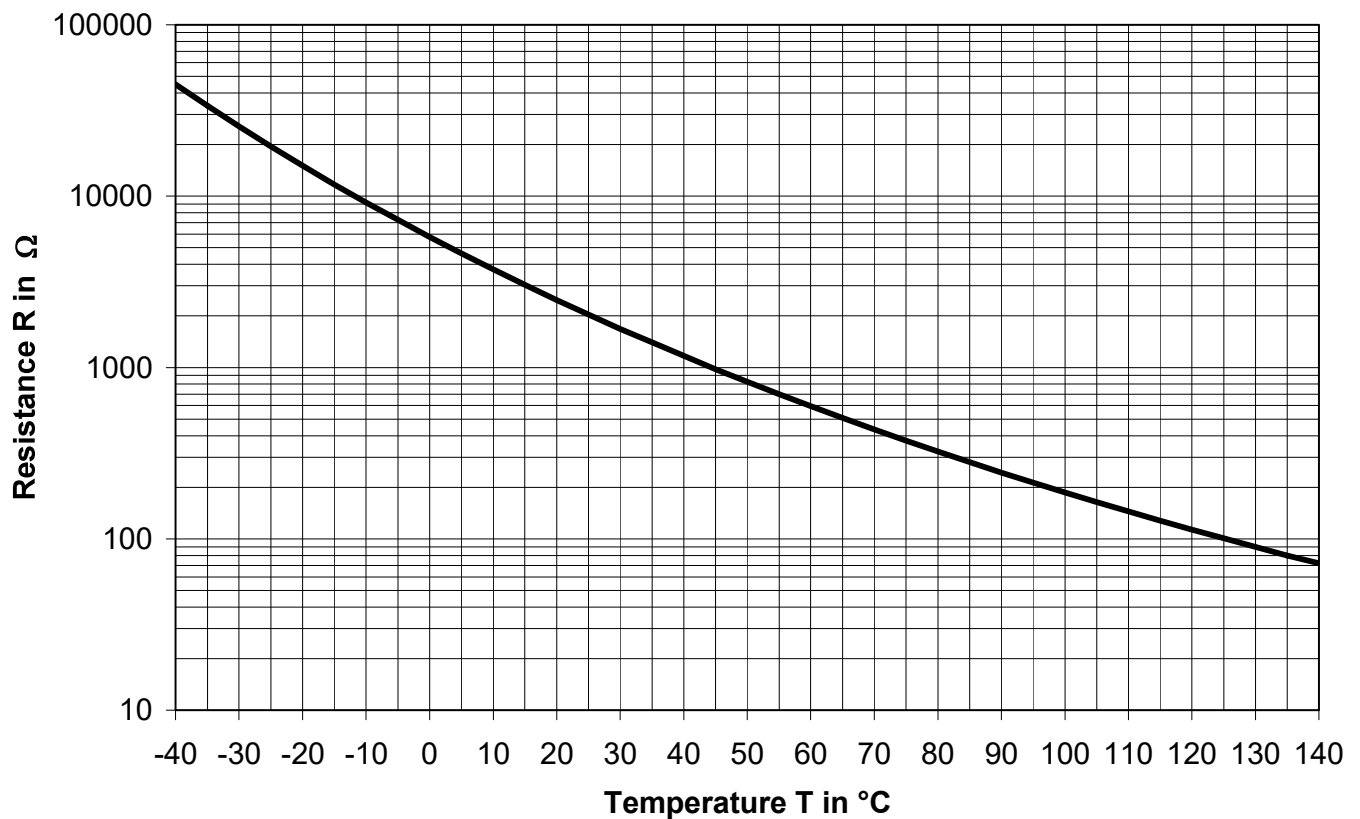


Figure 4. NTC resistance as a function of temperature



Measurement of resistance in engaged condition with measuring current ≤ 0.1 mA according to following table:

Temp. T in °C	Resistance R in Ω			Tolerance in K	Test limits at T ± 1 K	
	nominal	minimum	maximum		minimum	maximum
-40	44864	41559	48413	± 1.4	39236	51354
-35	33676	31294	36226	± 1.3	29602	38358
-30	25524	23790	27374	± 1.3	22546	28929
-25	19525	18251	20879	± 1.3	17327	22025
-20	15067	14123	16067	± 1.3	13430	16919
-15	11724	11019	12468	± 1.3	10495	13108
-10	9195	8665	9754	± 1.3	8265	10238
-5	7266	6864	7689	± 1.3	6558	8059
0	5784	5477	6106	± 1.2	5239	6390
5	4636	4400	4882	± 1.2	4215	5103
10	3740	3558	3930	± 1.2	3412	4102
15	3037	2895	3184	± 1.2	2780	3319
20	2480	2369	2595	± 1.2	2278	2702
25	2038	1950	2128	± 1.1	1877	2213
30	1683	1614	1755	± 1.1	1555	1823
35	1398	1343	1454	± 1.1	1295	1509
40	1167	1123	1212	± 1.1	1084	1256
45	978.9	943.9	1015	± 1.1	912.1	1051
50	825.0	796.9	853.8	± 1.0	770.8	883.5
55	698.5	675.8	721.7	± 1.0	654.2	746.1
60	594.0	575.6	612.7	± 1.0	557.7	632.9
65	507.2	492.2	522.4	± 1.0	477.3	539.1
70	434.9	422.7	447.2	± 0.9	410.2	461.2
75	374.3	364.3	384.4	± 0.9	353.8	396.1
80	323.4	315.2	331.6	± 0.9	306.4	341.4
85	280.4	273.7	287.1	± 0.9	266.2	295.4
90	244.0	238.5	249.5	± 0.8	232.1	256.6
95	213.0	208.5	217.6	± 0.8	203.0	223.5
100	186.6	182.9	190.3	± 0.8	178.1	195.4
105	164.0	160.5	167.5	± 0.8	156.4	171.8
110	144.5	141.3	147.8	± 0.9	137.8	151.5
115	127.8	124.8	130.8	± 1.0	121.7	134.0
120	113.3	110.5	116.1	± 1.1	107.9	118.9
125	100.7	98.1	103.3	± 1.1	95.8	105.7
130	89.8	87.4	92.2	± 1.2	85.4	94.3
135	80.2	78.0	82.5	± 1.3	76.3	84.3
140	71.9	69.8	74.0	± 1.3	68.3	75.6

Table 1: Output characteristic of the temperature sensor