1.800.554.4784

Please Choose A Calculator

Beta Value R - T Steinhart Hart

Resistance-Temperature Calculator Results

Print this page

Selection Criteria

Lower Temp C	Upper Temp C	Degree Change	Resistance @ 25° C	Thermistor Curve	Tolerance toleranceType
0	70	1	10,000	Z (-4.4%/C @ 25C) Mil Ratio B	C3 = +/- 0.2C

Results

(Data is for Reference Only)

Temp. C	Minimum	Nominal Resistance	Maximum	NTC (%/C)	Max Deviation	Degree Tolerance
0.0	32,326.87	32,660.00	32,993.13	5.10	1.02	0.20
1.0	30,725.44	31,040.00	31,354.56	5.07	1.01	0.20
2.0	29,212.78	29,510.00	29,807.22	5.04	1.01	0.20
3.0	27,779.01	28,060.00	28,340.99	5.01	1.00	0.20
4.0	26,424.22	26,690.00	26,955.78	4.98	1.00	0.20
5.0	25,148.54	25,400.00	25,651.46	4.95	0.99	0.20
6.0	23,942.02	24,180.00	24,417.98	4.92	0.98	0.20
7.0	22,794.82	23,020.00	23,245.18	4.89	0.98	0.20
8.0	21,706.89	21,920.00	22,133.11	4.86	0.97	0.20
9.0	20,678.30	20,880.00	21,081.70	4.83	0.97	0.20
10.0	19,708.96	19,900.00	20,091.04	4.80	0.96	0.20
11.0	18,789.03	18,970.00	19,150.97	4.77	0.95	0.20
12.0	17,918.47	18,090.00	18,261.53	4.74	0.95	0.20
13.0	17,087.47	17,250.00	17,412.53	4.71	0.94	0.20
14.0	16,305.90	16,460.00	16,614.10	4.68	0.94	0.20
15.0	15,563.90	15,710.00	15,856.10	4.65	0.93	0.20
16.0	14,861.43	15,000.00	15,138.57	4.62	0.92	0.20
17.0	14,188.63	14,320.00	14,451.37	4.59	0.92	0.20
18.0	13,555.35	13,680.00	13,804.65	4.56	0.91	0.20

19.0	12,951.66	13,070.00	13,188.34	4.53	0.91	0.20
20.0	12,377.59	12,490.00	12,602.41	4.50	0.90	0.20
21.0	11,833.11	11,940.00	12,046.89	4.48	0.90	0.20
22.0	11,318.25	11,420.00	11,521.75	4.46	0.89	0.20
23.0	10,823.12	10,920.00	11,016.88	4.44	0.89	0.20
24.0	10,357.68	10,450.00	10,542.32	4.42	0.88	0.20
25.0	9,912.00	10,000.00	10,088.00	4.40	0.88	0.20
26.0	9,489.10	9,573.00	9,656.90	4.38	0.88	0.20
27.0	9,086.00	9,166.00	9,246.00	4.36	0.87	0.20
28.0	8,701.72	8,778.00	8,854.28	4.35	0.87	0.20
29.0	8,336.28	8,409.00	8,481.72	4.32	0.86	0.20
30.0	7,988.70	8,058.00	8,127.30	4.30	0.86	0.20
31.0	7,656.98	7,723.00	7,789.02	4.27	0.85	0.20
32.0	7,341.14	7,404.00	7,466.86	4.25	0.85	0.20
33.0	7,039.17	7,099.00	7,158.83	4.21	0.84	0.20
34.0	6,752.05	6,809.00	6,865.95	4.18	0.84	0.20
35.0	6,477.78	6,532.00	6,586.22	4.15	0.83	0.20
36.0	6,216.39	6,268.00	6,319.61	4.12	0.82	0.20
37.0	5,966.84	6,016.00	6,065.16	4.09	0.82	0.20
38.0	5,728.16	5,775.00	5,821.84	4.06	0.81	0.20
39.0	5,500.35	5,545.00	5,589.65	4.03	0.81	0.20
40.0	5,283.39	5,326.00	5,368.61	4.00	0.80	0.20
41.0	5,076.30	5,117.00	5,157.70	3.98	0.80	0.20
42.0	4,877.10	4,916.00	4,954.90	3.96	0.79	0.20
43.0	4,687.80	4,725.00	4,762.20	3.94	0.79	0.20
44.0	4,507.40	4,543.00	4,578.60	3.92	0.78	0.20
45.0	4,333.93	4,368.00	4,402.07	3.90	0.78	0.20
46.0	4,168.39	4,201.00	4,233.61	3.88	0.78	0.20
47.0	4,009.80	4,041.00	4,072.20	3.86	0.77	0.20
48.0	3,858.13	3,888.00	3,917.87	3.84	0.77	0.20
49.0	3,713.41	3,742.00	3,770.59	3.82	0.76	0.20
50.0	3,574.62	3,602.00	3,629.38	3.80	0.76	0.20
51.0	3,441.78	3,468.00	3,494.22	3.78	0.76	0.20
52.0	3,314.88	3,340.00	3,365.12	3.76	0.75	0.20
53.0	3,192.94	3,217.00	3,241.06	3.74	0.75	0.20
54.0	3,075.94	3,099.00	3,122.06	3.72	0.74	0.20
55.0	2,963.90	2,986.00	3,008.10	3.70	0.74	0.20
56.0	2,856.82	2,878.00	2,899.18	3.68	0.74	0.20
57.0	2,753.69	2,774.00	2,794.31	3.66	0.73	0.20
58.0	2,655.53	2,675.00	2,694.47	3.64	0.73	0.20
59.0	2,561.32	2,580.00	2,598.68	3.62	0.72	0.20
60.0	2,470.09	2,488.00	2,505.91	3.60	0.72	0.20
61.0	2,382.82	2,400.00	2,417.18	3.58	0.72	0.20
62.0	2,299.51	2,316.00	2,332.49	3.56	0.71	0.20
63.0	2,219.17	2,235.00	2,250.83	3.54	0.71	0.20
64.0	2,141.81	2,157.00	2,172.19	3.52	0.70	0.20
65.0	2,067.43	2,082.00	2,096.57	3.50	0.70	0.20
66.0	1,996.02	2,010.00	2,023.98	3.48	0.70	0.20
67.0	1,927.58	1,941.00	1,954.42	3.46	0.69	0.20

68.0	1,862.12	1,875.00	1,887.89	3.44	0.69	0.20
69.0	1,799.62	1,812.00	1,824.38	3.42	0.68	0.20
70.0	1,739.09	1,751.00	1,762.91	3.40	0.68	0.20

Back

Calculators for Temperature and Thermistor Applications

Beta Value Calculator - The approximate relationship between the resistance and temperature for a NTC thermistor.

R – T (Resistance vs. Temperature Tables) – A table showing the standard resistance at each temperature point.

Steinhart-Hart Calculator - The Steinhart–Hart equation is a model of the resistance of a semiconductor at different temperatures.

$$\frac{1}{T} = A + B\ln(R) + C(\ln(R))^3$$

where:
T is the temperature (in kelvins)
R is the resistance at T (in ohms)
A, B, and C are the Steinhart-Hart coefficients which vary depending on the type and model of thermistor and the temperature range of interest. (The most general form of the applied equation contains a (ln(R))2 term, but this is frequently neglected because it is typically much smaller than the other coefficients, and is therefore not shown above.)

Basic Thermistor Formulas
To find degree tolerance – Add standard part tolerance to maximum deviation and divide by the NTC value.
To find percent tolerance – Multiply degree tolerance by NTC value.