



RESISTANCE/TEMPERATURE CHART

Reference R/T Characteristics for MIL-PRF-23648, MIL-PRF-32192 and S-311-P-827 NTC Thermistors. To determine the resistance at particular temperature, multiply the 25°C base resistance value by the multiplier in the table below. For example, a 10,000 ohm at 25°C, MIL Ratio B part would measure 36,430 ohm at 0°C (10,000 x 3.643 = 36,430).

| Temp (°C) | Ratio A | Ratio B | Ratio C | Ratio D | Ratio H | Ratio L | Ratio M | Ratio N | Ratio R | Ratio X |
|--------------|----------|----------|-----------|----------|----------|----------|----------|-----------|-----------|-----------|
| Ratio 25/125 | 19.8 | 29.4 | 48.7 | 7.1 | 13 | 16.1 | 23.3 | 38.5 | 62.5 | 142.9 |
| -55 | 54.78000 | 96.40000 | 130.60000 | 11.51000 | 31.90000 | 36.60000 | 60.78000 | 117.50000 | 159.00000 | 479.00000 |
| -50 | 40.06000 | 67.06000 | 90.06000 | 9.55000 | 24.30000 | 27.50000 | 44.13000 | 81.32000 | 110.10000 | 307.00000 |
| -45 | 29.53146 | 47.08421 | 62.48620 | 7.97020 | 18.60800 | 20.90389 | 32.31143 | 56.69045 | 77.39160 | 196.70410 |
| -40 | 22.05000 | 33.66000 | 44.03000 | 6.69000 | 14.40000 | 16.10000 | 23.98000 | 40.16000 | 55.50000 | 128.00000 |
| -35 | 16.59240 | 24.28525 | 31.23700 | 5.63700 | 11.27500 | 12.46138 | 17.93125 | 28.66344 | 39.76690 | 83.16060 |
| -30 | 12.58000 | 17.70000 | 22.35000 | 4.77000 | 8.93000 | 9.70000 | 13.52000 | 20.64000 | 28.40000 | 54.00000 |
| -25 | 9.61546 | 13.03128 | 16.14070 | 4.05690 | 7.11500 | 7.61934 | 10.27869 | 14.99955 | 20.34710 | 35.20120 |
| -20 | 7.42200 | 9.71200 | 1.80000 | 3.47000 | 5.69000 | 6.05000 | 7.89100 | 11.03000 | 14.65000 | 23.38000 |
| -15 | 5.77700 | 7.29800 | 8.69100 | 2.98000 | 4.56000 | 0.84000 | 6.10200 | 8.17500 | 10.51000 | 15.84000 |
| -10 | 4.52700 | 5.53400 | 6.45300 | 2.56000 | 3.68000 | 3.89000 | 4.75400 | 6.11900 | 7.60900 | 10.85000 |
| -5 | 3.58000 | 4.23400 | 4.83000 | 2.22000 | 2.99000 | 3.15000 | 3.73100 | 4.61500 | 5.55800 | 7.50800 |
| 0 | 2.84800 | 3.26600 | 3.64300 | 1.93000 | 2.45000 | 2.57000 | 2.94900 | 3.51000 | 4.09400 | 5.24600 |
| 5 | 0.28200 | 2.54000 | 2.77400 | 1.67800 | 2.02000 | 2.10000 | 2.34600 | 2.69000 | 3.04100 | 3.70000 |
| 10 | 1.83800 | 1.99000 | 2.12800 | 1.47000 | 1.68000 | 1.73000 | 1.87900 | 2.07800 | 2.27700 | 2.63300 |
| 15 | 1.49200 | 1.57100 | 1.64400 | 1.29000 | 1.42000 | 1.43000 | 1.51300 | 1.61700 | 1.71800 | 1.89100 |
| 20 | 1.21800 | 1.24900 | 1.27800 | 1.13000 | 1.18000 | 1.19000 | 1.22600 | 1.26700 | 1.30600 | 1.36900 |
| 25 | 1.00000 | 1.00000 | 1.00000 | 1.00000 | 1.00000 | 1.00000 | 1.00000 | 1.00000 | 1.00000 | 1.00000 |
| 30 | 0.82610 | 0.80580 | 0.78700 | 0.88450 | 0.85400 | 0.84100 | 0.81940 | 0.79420 | 0.77090 | 0.73580 |
| 35 | 0.68620 | 0.65320 | 0.62340 | 0.78470 | 0.73200 | 0.71100 | 0.67520 | 0.63480 | 0.59830 | 0.54550 |
| 40 | 0.57270 | 0.53260 | 0.49680 | 0.69830 | 0.62800 | 0.60400 | 0.55920 | 0.51050 | 0.46740 | 0.40730 |
| 45 | 0.48040 | 0.43680 | 0.39830 | 0.62320 | 0.53700 | 0.51500 | 0.46550 | 0.41290 | 0.36470 | 0.30650 |
| 50 | 0.40450 | 0.36020 | 0.32100 | 0.55780 | 0.46400 | 0.44200 | 0.38930 | 0.33590 | 0.29050 | 0.23170 |
| 55 | 0.34270 | 0.29860 | 0.26020 | 0.50000 | 0.40300 | 0.38000 | 0.32700 | 0.27480 | 0.23110 | 0.17640 |
| 60 | 0.29140 | 0.24880 | 0.21200 | 0.45050 | 0.35000 | 0.32800 | 0.27600 | 0.22950 | 0.18480 | 0.13580 |
| 65 | 0.24900 | 0.20820 | 0.17340 | 0.40640 | 0.30500 | 0.28500 | 0.23390 | 0.18670 | 0.14870 | 0.10490 |
| 70 | 0.21370 | 0.17510 | 0.14260 | 0.36750 | 0.26700 | 0.24800 | 0.19900 | 0.15500 | 0.12020 | 0.08130 |
| 75 | 0.18410 | 0.14800 | 0.11790 | 0.33320 | 0.23600 | 0.21600 | 0.17000 | 0.12930 | 0.09770 | 0.06350 |
| 80 | 0.15920 | 0.12560 | 0.09780 | 0.30270 | 0.20800 | 0.18900 | 0.14580 | 0.10840 | 0.07980 | 0.04980 |
| 85 | 0.13820 | 0.10710 | 0.08140 | 0.27570 | 0.18300 | 0.16700 | 0.12550 | 0.09120 | 0.06550 | 0.03930 |
| 90 | 0.12040 | 0.09164 | 0.06810 | 0.25160 | 0.16300 | 0.14700 | 0.10840 | 0.07710 | 0.05400 | 0.03130 |
| 95 | 0.10530 | 0.07874 | 0.05720 | 0.23010 | 0.14500 | 0.13000 | 0.09393 | 0.06540 | 0.04470 | 0.02500 |
| 100 | 0.09230 | 0.06792 | 0.04820 | 0.21090 | 0.13000 | 0.11500 | 0.08168 | 0.05570 | 0.03720 | 0.02000 |
| 105 | 0.08130 | 0.05880 | 0.04080 | | 0.11700 | 0.10173 | 0.07126 | 0.04760 | 0.03120 | 0.01610 |
| 110 | 0.07180 | 0.05108 | 0.03470 | | 0.10500 | 0.08996 | 0.06235 | 0.04080 | 0.02620 | 0.01300 |
| 115 | 0.06360 | 0.04452 | 0.02960 | | 0.09400 | 0.07949 | 0.05473 | 0.03510 | 0.02200 | 0.01060 |
| 120 | 0.05650 | 0.03894 | 0.02530 | | 0.08500 | 0.07076 | 0.04818 | 0.03030 | 0.01860 | 0.00870 |
| 125 | 0.05040 | 0.03416 | 0.02170 | | 0.07700 | 0.06183 | 0.04253 | 0.02630 | 0.01580 | 0.00710 |

R/T CHARACTERISTICS FOR MIL-PRF-23648, MIL-PRF-32192 and S-311-P-827 PTC THERMISTORS

| Temp°C | 10-75 ohms | 82 -160 ohms | 180-510 ohms | 560-1,800 ohms | 1,800-6,200 ohms | 6,800-10,000 ohms |
|--------------|-------------|--------------|--------------|----------------|------------------|-------------------|
| 25/125 ratio | 0.53 - 0.55 | 0.53-0.55 | 0.53-0.55 | 0.53-.055 | 0.53-0.55 | 0.53-0.55 |
| -55 | 0.615 | 0.582 | 0.56 | 0.55 | 0.515 | 0.51 |
| -15 | 0.079 | 0.77 | 0.74 | 0.74 | 0.73 | 0.73 |
| 0 | 0.863 | 0.847 | 0.835 | 0.835 | 0.825 | 0.825 |
| 25 | 1 | 1 | 1 | 1 | 1 | 1 |
| 50 | 1.16 | 1.17 | 1.2 | 1.2 | 1.23 | 1.19 |
| 75 | 1.35 | 1.37 | 1.42 | 1.42 | 1.45 | 1.4 |
| 100 | 1.545 | 1.584 | 1.656 | 1.656 | 1.67 | 1.61 |
| 125 | 1.75 | 1.8 | 1.92 | 1.92 | 1.96 | 1.83 |

Numbers above are for reference only. Consult the specific performance specification for actual R/T multipliers by part style; MIL-PRF-23648/9, MIL-PRF-32192/1 and /2, and S-311-P-827-31, -32, -33, and -34.