

NTC SMD Thermistor with Ni/Sn termination

for Automotive, Industrial and General applications

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SpiCAT



KYOCERA AVX Chip NTC Thermistors are high quality devices developed especially for surface mounting applications. They are widely used for temperature compensation, but can also achieve temperature control of printed circuits in a wide range of applications, including automotive, industrial and general purpose. Ni barrier/100% Sn plated termination for lead free soldering.

Characteristics

| Case Size | 0805 |
|--------------------------------|---|
| Operating temperature | -55°C to +150°C |
| Resistance | 1800 Ohm |
| Tolerance on Resistance (25°C) | $\pm 20\%$ |
| B 25/85 | 3910K $\pm 3\%$ |
| Maximum dissipation at 25°C | 0.12 W |
| Thermal dissipation factor | 2 mW/°C |
| Thermal time constant | 5 s |
| Termination | Ni barrier/100%Sn (for Pb free soldering) |



MSL 1
Pb Free
260°C



AEC-Q200
based qualification







Dimensions

mm (inches)

| Size (EIA) | Length (L) | Width (W) | Thickness (T) | Terminal (t) |
|------------|----------------------|----------------------|---------------|--------------|
| 0805 | 2.0 ± 0.3 | 1.25 ± 0.2 | 1.3 max | 0.2 min |
| | (0.079 ± 0.012) | (0.049 ± 0.008) | (0.051) max | (0.008) min |



How to Order (Packaging options)

| | | | | | |
|--|--|---|--|---|---|
| NB  Type NB = Ni/Sn Term for lead free soldering | 12  Size 12 = 0805 | MC  Material Code See Datasheet | 0182  Resistance (Ohm) 2 Sig. Digits + Number of Zeros | M  Tolerance H = $\pm 3\%$ * J = $\pm 5\%$ K = $\pm 10\%$ M = $\pm 20\%$ | BF  Suffix: Packaging BB = Cardboard tape (180mm reel, 4,000 pcs/reel) BF = Cardboard tape (180mm reel, 2,000 pcs/reel) BD = Cardboard tape (330mm reel, 10,000 pcs/reel) -- = Bulk (5000 pcs/bag) |
|--|--|---|--|---|---|

* For selected PNs

NOTICE: Specifications are subject to change without notice. All statements, information and data given herein are believed to be accurate and reliable, but are presented without guarantee or responsibility of any kind, expressed or implied. Specifications are typical and may not apply to all applications.

Material Table

MC (B25/85 = 3910K $\pm 3\%$)

| T (°C) | R(T) / R25 | TF (%) | α (%/°C) |
|--------|------------|--------|-----------------|
| -55 | 100.6 | 23.00 | -7.56 |
| -50 | 69.29 | 19.90 | -7.27 |
| -45 | 48.40 | 17.10 | -7.00 |
| -40 | 34.27 | 14.60 | -6.75 |
| -35 | 24.57 | 12.40 | -6.50 |
| -30 | 17.83 | 10.50 | -6.27 |
| -25 | 13.09 | 8.70 | -6.05 |
| -20 | 9.710 | 7.20 | -5.84 |
| -15 | 7.282 | 5.90 | -5.64 |
| -10 | 5.514 | 4.70 | -5.45 |
| -5 | 4.215 | 3.70 | -5.27 |
| 0 | 3.250 | 2.80 | -5.10 |
| 5 | 2.528 | 2.00 | -4.93 |
| 10 | 1.982 | 1.40 | -4.77 |
| 15 | 1.567 | 0.80 | -4.62 |
| 20 | 1.247 | 0.40 | -4.48 |
| 25 | 1.000 | 0.00 | -4.34 |
| 30 | 0.8072 | 0.40 | -4.21 |
| 35 | 0.6559 | 0.80 | -4.08 |
| 40 | 0.5362 | 1.20 | -3.96 |
| 45 | 0.4410 | 1.70 | -3.85 |
| 50 | 0.3647 | 2.20 | -3.74 |
| 55 | 0.3033 | 2.80 | -3.63 |
| 60 | 0.2535 | 3.40 | -3.53 |
| 65 | 0.2130 | 4.00 | -3.43 |
| 70 | 0.1798 | 4.60 | -3.34 |
| 75 | 0.1525 | 5.20 | -3.25 |
| 80 | 0.1300 | 5.90 | -3.16 |
| 85 | 0.1112 | 6.60 | -3.08 |
| 90 | 0.0955 | 7.30 | -2.99 |
| 95 | 0.0824 | 8.00 | -2.92 |
| 100 | 0.0713 | 8.70 | -2.84 |
| 105 | 0.0620 | 9.40 | -2.77 |
| 110 | 0.0541 | 10.10 | -2.70 |
| 115 | 0.0473 | 10.90 | -2.63 |
| 120 | 0.0415 | 11.60 | -2.57 |
| 125 | 0.0366 | 12.30 | -2.51 |
| 130 | 0.0323 | 13.10 | -2.45 |
| 135 | 0.0286 | 13.80 | -2.39 |
| 140 | 0.0254 | 14.60 | -2.33 |
| 145 | 0.0227 | 15.30 | -2.28 |
| 150 | 0.0203 | 16.10 | -2.23 |

| B25/50 | B25/75 | B25/85 | B25/100 | B Tol |
|--------|--------|--------|---------|-----------|
| 3887 K | 3904 K | 3910 K | 3917 K | $\pm 3\%$ |

| R Min (Ω) | R Nom (Ω) | R Max (Ω) |
|--------------------|--------------------|--------------------|
| 103,216 | 181,080 | 258,944 |
| 74,958 | 124,722 | 174,486 |
| 54,798 | 87,120 | 119,442 |
| 40,343 | 61,686 | 83,029 |
| 29,897 | 44,226 | 58,555 |
| 22,305 | 32,094 | 41,883 |
| 16,800 | 23,562 | 30,324 |
| 12,724 | 17,478 | 22,232 |
| 9,712.7 | 13,108 | 16,502 |
| 7,473.7 | 9,925.2 | 12,377 |
| 5,788.9 | 7,587.0 | 9,385.1 |
| 4,516.2 | 5,850.0 | 7,183.8 |
| 3,549.3 | 4,550.4 | 5,551.5 |
| 2,804.1 | 3,567.6 | 4,331.1 |
| 2,233.9 | 2,820.6 | 3,407.3 |
| 1,786.7 | 2,244.6 | 2,702.5 |
| 1,440.0 | 1,800.0 | 2,160.0 |
| 1,156.6 | 1,453.0 | 1,749.4 |
| 935.1 | 1,180.6 | 1,426.2 |
| 760.5 | 965.2 | 1,169.8 |
| 621.5 | 793.8 | 966.1 |
| 510.7 | 656.5 | 802.2 |
| 421.5 | 545.9 | 670.4 |
| 349.5 | 456.3 | 563.1 |
| 291.4 | 383.4 | 475.4 |
| 244.0 | 323.6 | 403.3 |
| 205.3 | 274.5 | 343.7 |
| 173.4 | 234.0 | 294.6 |
| 146.9 | 200.2 | 253.4 |
| 125.0 | 171.9 | 218.9 |
| 106.8 | 148.3 | 189.8 |
| 91.5 | 128.4 | 165.2 |
| 78.8 | 111.6 | 144.4 |
| 68.0 | 97.3 | 126.6 |
| 58.8 | 85.2 | 111.5 |
| 51.1 | 74.8 | 98.4 |
| 44.6 | 65.8 | 87.1 |
| 38.9 | 58.2 | 77.4 |
| 34.1 | 51.5 | 69.0 |
| 29.9 | 45.8 | 61.6 |
| 26.4 | 40.8 | 55.2 |
| 23.3 | 36.5 | 49.6 |