

SMD 0805, Glass Protected NTC Thermistors



FEATURES

- TCR ranging from - 6 %/K at - 40 °C to - 2 %/K at 150 °C
- Tolerance on R_{25} down to 1 %, and on $B_{25/85}$ down to 1 %
- Suitable for wave or reflow soldering
- NiSn terminations
- Fully glass coated and protected
- cUL recognized for safety applications (file E148885)
- AEC-Q200 qualified
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

APPLICATIONS

- Temperature sensing, protection and compensation in automotive, industrial, telecom and consumer applications. Examples are:
 - Battery chargers
 - Power suppliers
 - Office equipment
 - LCD compensation
 - In-car entertainment

DESCRIPTION

Size 0805 chip thermistors with a negative temperature coefficient. The device has no marking.

PACKAGING

Available in 8 mm punched paper tape on reel package of 4000 units.

DESIGN-IN SUPPORT

For complete Curve Computation, visit:

www.vishay.com/resistors-non-linear/curve-computation-list/

| QUICK REFERENCE DATA | | |
|---|--------------------|------|
| PARAMETER | VALUE | UNIT |
| Resistance value at 25 °C | 2.2K to 680K | Ω |
| Tolerance on R_{25} -value | ± 1; ± 2; ± 3; ± 5 | % |
| $B_{25/85}$ -value | 3430 to 4125 | K |
| Tolerance on $B_{25/85}$ -value | ± 1; ± 3 | % |
| Maximum dissipation at 25 °C | 210 | mW |
| Thermal time constant τ | ≈ 10 | s |
| Dissipation factor D | 3.5 | mW/K |
| Operating temperature range at zero power | - 40 to + 150 | °C |
| Weight | ≈ 0.008 | g |

| ELECTRICAL DATA AND ORDERING INFORMATION | | | | |
|--|------------------------|------------------------------|--|--|
| R_{25} -VALUE (kΩ) | $B_{25/85}$ -VALUE (K) | TOLERANCE ON $B_{25/85}$ (%) | SAP MATERIAL AND ORDERING NUMBER NTCS0805E3... (1) | 12NC OLD MATERIAL NUMBER 2381 615 5... (2) |
| 2.2 | 3600 | ± 1 | 222*MT | *222 |
| 4.7 | 3500 | ± 1 | 472*MT | *472 |
| 10 | 3430 | ± 3 | 103*LT | - |
| 10 | 3570 | ± 3 | 103*MT | *103 |
| 10 | 3940 | ± 1 | 103*HT | - |
| 15 | 3700 | ± 1 | 153*MT | *153 |
| 22 | 3800 | ± 1 | 223*HT | *223 |
| 33 | 3920 | ± 1 | 333*HT | *333 |
| 47 | 3960 | ± 1 | 473*HT | *473 |
| 68 | 4100 | ± 1 | 683*XT | *683 |
| 100 | 3590 | ± 1 | 104*MT | - |
| 100 | 4100 | ± 1 | 104*XT | *104 |
| 330 | 3930 | ± 1 | 334*HT | *334 |
| 470 | 4025 | ± 1 | 474*XT | *474 |
| 680 | 4125 | ± 1 | 684*XT | *684 |

Notes

(1) Replace * in SAP by J for 5 %, H for 3 %, G for 2 %, F for 1 % tolerance on R_{25}

(2) Replace * in 12NC by 3 for 5 %, 6 for 3 %, 4 for 2 %, 5 for 1 % tolerance on R_{25}



DIMENSIONS in millimeters



| L ₁ | W | T | L ₂ AND L ₃ MIN. | L ₄ MIN. |
|----------------|-------------|------------|--|---------------------|
| 2.0 ± 0.2 | 1.25 ± 0.15 | 0.8 ± 0.15 | 0.2 | 0.55 |

For complete Curve Computation, visit: www.vishay.com/resistors-non-linear/curve-computation-list/

| RESISTANCE VALUES AT INTERMEDIATE TEMPERATURES WITH R₂₅ AT 2.2 kΩ AND 4.7 kΩ | | | | | |
|--|---------------------------------|-----------|---------------------------------|-----------|--|
| T _{OPER} (°C) | PART NUMBER NTCS0805E3222*MT | | PART NUMBER NTCS0805E3472*MT | | ΔR/R DUE TO B _{tol.} (± %) |
| | R _T (Ω) | TCR (%/K) | R _T (Ω) | TCR (%/K) | |
| -40 | 57 658 | - 6.26 | 101 275 | - 5.75 | 7.58 |
| -35 | 42 410 | - 6.03 | 76 325 | - 5.57 | 6.83 |
| -30 | 31 537 | - 5.82 | 58 034 | - 5.39 | 6.13 |
| -25 | 23 698 | - 5.61 | 44 505 | - 5.22 | 5.45 |
| -20 | 17 986 | - 5.42 | 34 413 | - 5.06 | 4.80 |
| -15 | 13 782 | - 5.23 | 26 821 | - 4.91 | 4.18 |
| -10 | 10 657 | - 5.06 | 21 065 | - 4.76 | 3.58 |
| -5 | 8312.0 | - 4.89 | 16 667 | - 4.61 | 3.01 |
| 0 | 6537.1 | - 4.72 | 13 280 | - 4.47 | 2.46 |
| 5 | 5182.1 | - 4.57 | 10 654 | - 4.34 | 1.93 |
| 10 | 4139.2 | - 4.42 | 8603.2 | - 4.21 | 1.42 |
| 15 | 3330.1 | - 4.28 | 6991.1 | - 4.09 | 0.93 |
| 20 | 2697.8 | - 4.14 | 5715.6 | - 3.97 | 0.46 |
| 25 | 2200.0 | - 4.02 | 4700.0 | - 3.86 | 0.00 |
| 30 | 1805.5 | - 3.89 | 3886.6 | - 3.75 | 0.22 |
| 35 | 1490.7 | - 3.77 | 3231.2 | - 3.64 | 0.43 |
| 40 | 1237.9 | - 3.66 | 2700.3 | - 3.54 | 0.64 |
| 45 | 1033.7 | - 3.55 | 2267.9 | - 3.44 | 0.84 |
| 50 | 867.85 | - 3.45 | 1913.9 | - 3.35 | 1.03 |
| 55 | 732.31 | - 3.35 | 1622.6 | - 3.26 | 1.22 |
| 60 | 620.96 | - 3.25 | 1381.7 | - 3.17 | 1.40 |
| 65 | 529.02 | - 3.16 | 1181.7 | - 3.09 | 1.58 |
| 70 | 452.73 | - 3.07 | 1014.7 | - 3.01 | 1.75 |
| 75 | 389.13 | - 2.99 | 874.85 | - 2.93 | 1.92 |
| 80 | 335.85 | - 2.90 | 757.13 | - 2.85 | 2.08 |
| 85 | 291.02 | - 2.83 | 657.67 | - 2.78 | 2.23 |
| 90 | 253.15 | - 2.75 | 573.31 | - 2.71 | 2.54 |
| 95 | 221.03 | - 2.68 | 501.48 | - 2.64 | 2.85 |
| 100 | 193.66 | - 2.61 | 440.10 | - 2.58 | 3.14 |
| 105 | 170.27 | - 2.54 | 387.47 | - 2.52 | 3.43 |
| 110 | 150.20 | - 2.48 | 342.18 | - 2.46 | 3.71 |
| 115 | 132.91 | - 2.41 | 303.09 | - 2.40 | 3.98 |
| 120 | 117.98 | - 2.35 | 269.24 | - 2.34 | 4.24 |
| 125 | 105.03 | - 2.20 | 239.83 | - 2.29 | 4.50 |
| 130 | 93.766 | - 2.24 | 214.20 | - 2.23 | 4.76 |
| 135 | 83.943 | - 2.19 | 191.82 | - 2.18 | 5.00 |
| 140 | 75.349 | - 2.13 | 172.20 | - 2.13 | 5.25 |
| 145 | 67.807 | - 2.08 | 154.96 | - 2.09 | 5.48 |
| 150 | 61.172 | - 2.04 | 139.78 | - 2.04 | 5.71 |



For complete Curve Computation, visit: www.vishay.com/resistors-non-linear/curve-computation-list/

| RESISTANCE VALUES AT INTERMEDIATE TEMPERATURES WITH R ₂₅ AT 10 kΩ | | | | | | | |
|--|---------------------------------|--------------|---------------------------------|--------------|---------------------------------|--------------|--|
| T _{OPER} (°C) | PART NUMBER NTCS0805E3103*LT | | PART NUMBER NTCS0805E3103*MT | | PART NUMBER NTCS0805E3103*HT | | ΔR/R DUE TO B _{tol.} (± %) |
| | R _T (Ω) | TCR (%/K) | R _T (Ω) | TCR (%/K) | R _T (Ω) | TCR (%/K) | |
| - 40 | 182 928 | - 5.47 | 232 634 | - 5.92 | 335 922 | - 6.60 | 11.22 |
| - 35 | 139 839 | - 5.28 | 173 538 | - 5.71 | 242 721 | - 6.40 | 10.14 |
| - 30 | 107 902 | - 5.10 | 130 769 | - 5.51 | 177 179 | - 6.19 | 9.10 |
| - 25 | 83 986 | - 4.93 | 99 489 | - 5.33 | 130 625 | - 6.00 | 8.11 |
| - 20 | 65 904 | - 4.77 | 76 385 | - 5.15 | 97 234 | - 5.81 | 7.15 |
| - 15 | 52 111 | - 4.62 | 59 157 | - 4.98 | 73 056 | - 5.63 | 6.24 |
| - 10 | 41 501 | - 4.48 | 46 194 | - 4.82 | 55 387 | - 5.45 | 5.35 |
| - 5 | 33 276 | - 4.35 | 36 356 | - 4.67 | 42 358 | - 5.28 | 4.50 |
| 0 | 26 851 | - 4.23 | 28 829 | - 4.52 | 32 666 | - 5.11 | 3.68 |
| 5 | 21 799 | - 4.11 | 23 025 | - 4.38 | 25 396 | - 4.96 | 2.89 |
| 10 | 17 798 | - 4.00 | 18 515 | - 4.25 | 19 898 | - 4.80 | 2.13 |
| 15 | 14 612 | - 3.89 | 14 986 | - 4.12 | 15 708 | - 4.66 | 1.40 |
| 20 | 12 058 | - 3.79 | 12 205 | - 4.00 | 12 490 | - 4.51 | 0.69 |
| 25 | 10 000 | - 3.69 | 10 000 | - 3.88 | 10 000 | - 4.38 | 0.00 |
| 30 | 8332.5 | - 3.60 | 8240.3 | - 3.77 | 8060.1 | - 4.25 | 0.66 |
| 35 | 6974.6 | - 3.51 | 6827.5 | - 3.66 | 6538.4 | - 4.12 | 1.31 |
| 40 | 5863.2 | - 3.43 | 5686.6 | - 3.56 | 5336.7 | - 4.00 | 1.93 |
| 45 | 4949.5 | - 3.35 | 4760.3 | - 3.46 | 4381.9 | - 3.88 | 2.53 |
| 50 | 4194.8 | - 3.27 | 4004.2 | - 3.37 | 3618.5 | - 3.77 | 3.11 |
| 55 | 3568.8 | - 3.19 | 3383.8 | - 3.28 | 3004.5 | - 3.67 | 3.68 |
| 60 | 3047.5 | - 3.12 | 2872.3 | - 3.19 | 2507.9 | - 3.56 | 4.23 |
| 65 | 2611.5 | - 3.05 | 2448.5 | - 3.11 | 2104.1 | - 3.46 | 4.76 |
| 70 | 2245.5 | - 2.99 | 2095.9 | - 3.03 | 1774.0 | - 3.37 | 5.28 |
| 75 | 1937.2 | - 2.92 | 1801.2 | - 2.95 | 1502.7 | - 3.27 | 5.78 |
| 80 | 1676.6 | - 2.86 | 1553.8 | - 2.88 | 1278.7 | - 3.18 | 6.27 |
| 85 | 1455.4 | - 2.80 | 1345.3 | - 2.81 | 1092.8 | - 3.10 | 6.74 |
| 90 | 1267.2 | - 2.74 | 1168.9 | - 2.74 | 937.89 | - 3.02 | 7.20 |
| 95 | 1106.5 | - 2.68 | 1019.2 | - 2.67 | 808.21 | - 2.94 | 7.65 |
| 100 | 968.83 | - 2.63 | 891.48 | - 2.61 | 699.18 | - 2.86 | 8.09 |
| 105 | 850.57 | - 2.53 | 782.28 | - 2.54 | 607.15 | - 2.79 | 8.51 |
| 110 | 748.69 | - 2.53 | 688.56 | - 2.48 | 529.14 | - 2.71 | 8.93 |
| 115 | 660.67 | - 2.48 | 607.85 | - 2.43 | 462.78 | - 2.65 | 9.33 |
| 120 | 584.42 | - 2.43 | 538.14 | - 2.37 | 406.10 | - 2.58 | 9.73 |
| 125 | 518.20 | - 2.38 | 477.73 | - 2.32 | 357.54 | - 2.52 | 10.11 |
| 130 | 460.53 | - 2.34 | 425.24 | - 2.26 | 315.77 | - 2.45 | 10.48 |
| 135 | 410.19 | - 2.29 | 379.49 | - 2.21 | 279.73 | - 2.39 | 10.85 |
| 140 | 366.15 | - 2.25 | 339.51 | - 2.17 | 248.53 | - 2.34 | 11.20 |
| 145 | 327.52 | - 2.21 | 304.47 | - 2.12 | 221.44 | - 2.28 | 11.55 |
| 150 | 293.56 | - 2.17 | 273.69 | - 2.07 | 197.84 | - 2.23 | 11.89 |



For complete Curve Computation, visit: www.vishay.com/resistors-non-linear/curve-computation-list/

| RESISTANCE VALUES AT INTERMEDIATE TEMPERATURES WITH R_{25} AT 15 kΩ, 22 kΩ AND 47 kΩ | | | | | | | |
|--|---------------------------------|--------------|---------------------------------|--------------|---------------------------------|--------------|--|
| T_{OPER} (°C) | PART NUMBER NTCS0805E3153*MT | | PART NUMBER NTCS0805E3223*HT | | PART NUMBER NTCS0805E3333*MT | | $\Delta R/R$ DUE TO B_{tol} . (± %) |
| | R_T (Ω) | TCR (%/K) | R_T (Ω) | TCR (%/K) | R_T (Ω) | TCR (%/K) | |
| - 40 | 391 251 | - 6.14 | 641 004 | - 6.40 | 1 104 739 | - 6.79 | 7.58 |
| - 35 | 289 245 | - 5.94 | 468 038 | - 6.18 | 793 249 | - 6.53 | 6.83 |
| - 30 | 215 960 | - 5.75 | 345 469 | - 5.97 | 576 683 | - 6.28 | 6.13 |
| - 25 | 162 779 | - 5.56 | 257 644 | - 5.77 | 424 161 | - 6.05 | 5.45 |
| - 20 | 123 815 | - 5.38 | 194 045 | - 5.57 | 315 430 | - 5.84 | 4.80 |
| - 15 | 95 001 | - 5.21 | 147 521 | - 5.39 | 237 022 | - 5.63 | 4.18 |
| - 10 | 73 505 | - 5.05 | 113 159 | - 5.22 | 179 865 | - 5.44 | 3.58 |
| - 5 | 57 329 | - 4.89 | 87 544 | - 5.05 | 137 767 | - 5.26 | 3.01 |
| 0 | 45 058 | - 4.74 | 68 281 | - 4.89 | 106 459 | - 5.08 | 2.46 |
| 5 | 35 674 | - 4.60 | 53 672 | - 4.74 | 82 958 | - 4.92 | 1.93 |
| 10 | 28 445 | - 4.46 | 42 503 | - 4.59 | 65 162 | - 4.76 | 1.42 |
| 15 | 22 834 | - 4.33 | 33 898 | - 4.46 | 51 572 | - 4.61 | 0.93 |
| 20 | 18 450 | - 4.20 | 27 220 | - 4.32 | 41 112 | - 4.47 | 0.46 |
| 25 | 15 000 | - 4.08 | 22 000 | - 4.20 | 33 000 | - 4.34 | 0.00 |
| 30 | 12 268 | - 3.96 | 17 892 | - 4.07 | 26 663 | - 4.21 | 0.22 |
| 35 | 10 092 | - 3.85 | 14 638 | - 3.96 | 21 678 | - 4.08 | 0.43 |
| 40 | 8347.4 | - 3.74 | 12 045 | - 3.84 | 17 730 | - 3.97 | 0.64 |
| 45 | 6941.1 | - 3.64 | 9965.0 | - 3.74 | 14 585 | - 3.86 | 0.84 |
| 50 | 5801.1 | - 3.54 | 8288.3 | - 3.63 | 12 063 | - 3.75 | 1.03 |
| 55 | 4872.1 | - 3.44 | 6928.4 | - 3.54 | 10 030 | - 3.65 | 1.22 |
| 60 | 4111.1 | - 3.35 | 5819.8 | - 3.44 | 8381.6 | - 3.55 | 1.40 |
| 65 | 3484.7 | - 3.26 | 4911.4 | - 3.35 | 7037.8 | - 3.45 | 1.58 |
| 70 | 2966.6 | - 3.18 | 4163.4 | - 3.26 | 5936.8 | - 3.36 | 1.75 |
| 75 | 2536.2 | - 3.09 | 3544.6 | - 3.18 | 5030.3 | - 3.27 | 1.92 |
| 80 | 2176.9 | - 3.02 | 3030.2 | - 3.10 | 4280.4 | - 3.19 | 2.08 |
| 85 | 1875.8 | - 2.94 | 2600.9 | - 3.02 | 3657.2 | - 3.11 | 2.23 |
| 90 | 1622.5 | - 2.87 | 2241.0 | - 2.94 | 3137.1 | - 3.03 | 2.54 |
| 95 | 1408.4 | - 2.79 | 1938.0 | - 2.87 | 2701.2 | - 2.96 | 2.85 |
| 100 | 1226.8 | - 2.73 | 1682.0 | - 2.80 | 2334.4 | - 2.89 | 3.14 |
| 105 | 1072.3 | - 2.66 | 1464.9 | - 2.73 | 2024.4 | - 2.82 | 3.43 |
| 110 | 940.20 | - 2.60 | 1280.0 | - 2.67 | 1761.6 | - 2.75 | 3.71 |
| 115 | 827.00 | - 2.54 | 1122.0 | - 2.60 | 1538.0 | - 2.69 | 3.98 |
| 120 | 729.62 | - 2.48 | 986.60 | - 2.54 | 1346.9 | - 2.63 | 4.24 |
| 125 | 645.60 | - 2.42 | 870.11 | - 2.48 | 1183.23 | - 2.57 | 4.50 |
| 130 | 572.86 | - 2.36 | 769.60 | - 2.43 | 1042.4 | - 2.51 | 4.76 |
| 135 | 509.71 | - 2.31 | 682.59 | - 2.37 | 921.02 | - 2.45 | 5.00 |
| 140 | 454.71 | - 2.26 | 607.05 | - 2.32 | 815.99 | - 2.40 | 5.25 |
| 145 | 406.69 | - 2.21 | 541.28 | - 2.27 | 724.85 | - 2.35 | 5.48 |
| 150 | 364.64 | - 2.16 | 483.86 | - 2.22 | 645.54 | - 2.30 | 5.71 |

For complete Curve Computation, visit: www.vishay.com/resistors-non-linear/curve-computation-list/



| RESISTANCE VALUES AT INTERMEDIATE TEMPERATURES WITH R_{25} AT 47 k Ω , 68 k Ω AND 100 k Ω | | | | | | | | | |
|--|---------------------------------|--------------|---------------------------------|--------------|---------------------------------|--------------|---------------------------------|--------------|---|
| T_{OPER} (°C) | PART NUMBER NTCS0805E3473*HT | | PART NUMBER NTCS0805E3683*XT | | PART NUMBER NTCS0805E3104*MT | | PART NUMBER NTCS0805E3104*XT | | $\Delta R/R$ DUE TO B_{tol} . (± %) |
| | R_T (Ω) | TCR (%/K) | R_T (Ω) | TCR (%/K) | R_T (Ω) | TCR (%/K) | R_T (Ω) | TCR (%/K) | |
| -40 | 1 536 095 | - 6.60 | 2 596 437 | - 6.92 | 2 245 445 | - 5.82 | 3 833 689 | - 6.96 | 7.58 |
| -35 | 1 110 020 | - 6.37 | 1 848 208 | - 6.68 | 1 686 623 | - 5.63 | 2 724 206 | - 6.71 | 6.83 |
| -30 | 811 212 | - 6.15 | 1 331 164 | - 6.45 | 1 278 403 | - 5.45 | 1 959 612 | - 6.47 | 6.13 |
| -25 | 599 204 | - 5.94 | 969 559 | - 6.23 | 977 431 | - 5.28 | 1 426 014 | - 6.25 | 5.45 |
| -20 | 447 111 | - 5.74 | 713 753 | - 6.02 | 753 552 | - 5.12 | 1 049 150 | - 6.03 | 4.80 |
| -15 | 336 851 | - 5.56 | 530 805 | - 5.82 | 585 597 | - 4.97 | 779 950 | - 5.83 | 4.18 |
| -10 | 256 116 | - 5.38 | 398 593 | - 5.64 | 458 561 | - 4.82 | 585 575 | - 5.64 | 3.58 |
| -5 | 196 435 | - 5.21 | 302 091 | - 5.45 | 361 719 | - 4.67 | 443 786 | - 5.45 | 3.01 |
| 0 | 151 917 | - 5.05 | 230 981 | - 5.28 | 287 337 | - 4.54 | 339 343 | - 5.28 | 2.46 |
| 5 | 118 422 | - 4.89 | 178 104 | - 5.12 | 229 790 | - 4.40 | 261 695 | - 5.11 | 1.93 |
| 10 | 93 012 | - 4.74 | 138 441 | - 4.96 | 184 958 | - 4.28 | 203 455 | - 4.96 | 1.42 |
| 15 | 73 583 | - 4.60 | 108 442 | - 4.81 | 149 796 | - 4.16 | 159 402 | - 4.81 | 0.93 |
| 20 | 58 615 | - 4.47 | 85 571 | - 4.67 | 122 043 | - 4.04 | 125 811 | - 4.66 | 0.46 |
| 25 | 47 000 | - 4.34 | 68 000 | - 4.53 | 100 000 | - 3.93 | 100 000 | - 4.52 | 0.00 |
| 30 | 37 925 | - 4.22 | 54 403 | - 4.40 | 82 389 | - 3.82 | 80 021 | - 4.39 | 0.22 |
| 35 | 30 788 | - 4.10 | 43 806 | - 4.27 | 68 238 | - 3.72 | 64 447 | - 4.27 | 0.43 |
| 40 | 25 139 | - 3.99 | 35 493 | - 4.15 | 56 805 | - 3.62 | 52 224 | - 4.15 | 0.64 |
| 45 | 20 641 | - 3.88 | 28 928 | - 4.03 | 47 518 | - 3.52 | 42 570 | - 4.03 | 0.84 |
| 50 | 17 038 | - 3.78 | 23 712 | - 3.92 | 39 936 | - 3.43 | 34 897 | - 3.92 | 1.03 |
| 55 | 14 136 | - 3.68 | 19 543 | - 3.81 | 33 716 | - 3.34 | 28 763 | - 3.81 | 1.22 |
| 60 | 11 786 | - 3.58 | 16 192 | - 3.71 | 28 589 | - 3.26 | 23 830 | - 3.71 | 1.40 |
| 65 | 9872.9 | - 3.49 | 13 483 | - 3.61 | 24 342 | - 3.17 | 19 842 | - 3.61 | 1.58 |
| 70 | 8308.1 | - 3.40 | 11 282 | - 3.52 | 20 811 | - 3.10 | 16 601 | - 3.52 | 1.75 |
| 75 | 7021.9 | - 3.31 | 9484.2 | - 3.43 | 17 861 | - 3.02 | 13 954 | - 3.43 | 1.92 |
| 80 | 5959.7 | - 3.23 | 8008.8 | - 3.34 | 15 386 | - 2.95 | 11 781 | - 3.34 | 2.08 |
| 85 | 5078.7 | - 3.15 | 6792.1 | - 3.25 | 13 303 | - 2.87 | 9988.4 | - 3.26 | 2.23 |
| 90 | 4344.9 | - 3.08 | 5784.2 | - 3.17 | 11 542 | - 2.81 | 8503.6 | - 3.18 | 2.54 |
| 95 | 3731.0 | - 3.00 | 4945.7 | - 3.09 | 10 048 | - 2.74 | 7268.2 | - 3.10 | 2.85 |
| 100 | 3215.5 | - 2.93 | 4245.0 | - 3.02 | 8775.2 | - 2.68 | 6236.0 | - 3.03 | 3.14 |
| 105 | 2781.0 | - 2.86 | 3657.2 | - 2.94 | 7688.1 | - 2.61 | 5370.1 | - 2.95 | 3.43 |
| 110 | 2413.2 | - 2.80 | 3162.1 | - 2.87 | 6756.2 | - 2.55 | 4640.8 | - 2.88 | 3.71 |
| 115 | 2101.0 | - 2.73 | 2743.5 | - 2.81 | 5954.7 | - 2.50 | 4024.3 | - 2.82 | 3.98 |
| 120 | 1834.9 | - 2.67 | 2388.2 | - 2.74 | 5263.2 | - 2.44 | 3501.2 | - 2.75 | 4.24 |
| 125 | 1607.3 | - 2.61 | 2085.7 | - 2.68 | 4664.8 | - 2.39 | 3055.8 | - 2.69 | 4.50 |
| 130 | 1412.2 | - 2.55 | 1827.2 | - 2.62 | 4145.4 | - 2.33 | 2675.3 | - 2.63 | 4.76 |
| 135 | 1244.2 | - 2.50 | 1605.5 | - 2.56 | 3693.3 | - 2.28 | 2349.2 | - 2.57 | 5.00 |
| 140 | 1099.3 | - 2.44 | 1414.9 | - 2.50 | 3298.7 | - 2.24 | 2068.7 | - 2.51 | 5.25 |
| 145 | 973.81 | - 2.39 | 1250.4 | - 2.44 | 2953.4 | - 2.19 | 1826.8 | - 2.46 | 5.48 |
| 150 | 864.87 | - 2.34 | 1108.0 | - 2.39 | 2650.5 | - 2.14 | 1617.5 | - 2.41 | 5.71 |



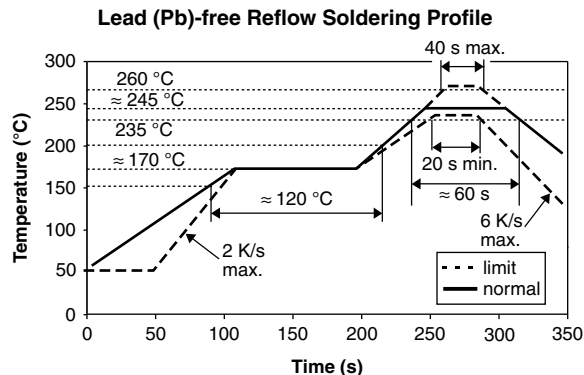
For complete Curve Computation, visit: www.vishay.com/resistors-non-linear/curve-computation-list/

| RESISTANCE VALUES AT INTERMEDIATE TEMPERATURES WITH R₂₅ AT 330 kΩ, 470 kΩ AND 680 kΩ | | | | | | | |
|--|---------------------------------|--------------|---------------------------------|--------------|---------------------------------|--------------|--|
| T _{OPER} (°C) | PART NUMBER NTCS0805E3334*HT | | PART NUMBER NTCS0805E3474*XT | | PART NUMBER NTCS0805E3684*XT | | ΔR/R DUE TO B _{tol.} (± %) |
| | R _T (Ω) | TCR (%/K) | R _T (Ω) | TCR (%/K) | R _T (Ω) | TCR (%/K) | |
| - 40 | 10 488 | - 6.53 | 16 325 | - 6.70 | 23 477 | - 6.58 | 7.58 |
| - 35 | 7608.4 | - 6.31 | 11 742 | - 6.48 | 16 980 | - 6.38 | 6.83 |
| - 30 | 5579.1 | - 6.10 | 8539.8 | - 6.26 | 12 404 | - 6.18 | 6.13 |
| - 25 | 4133.1 | - 5.90 | 6276.8 | - 6.05 | 9147.1 | - 6.00 | 5.45 |
| - 20 | 3092.0 | - 5.71 | 4660.3 | - 5.86 | 6807.4 | - 5.82 | 4.80 |
| - 15 | 2334.8 | - 5.53 | 3493.6 | - 5.67 | 5110.7 | - 5.65 | 4.18 |
| - 10 | 1778.8 | - 5.35 | 2643.2 | - 5.49 | 3869.3 | - 5.48 | 3.58 |
| - 5 | 1366.9 | - 5.19 | 2017.4 | - 5.32 | 2953.2 | - 5.33 | 3.01 |
| 0 | 1058.9 | - 5.03 | 1552.8 | - 5.15 | 2271.5 | - 5.17 | 2.46 |
| 5 | 826.75 | - 4.87 | 1204.7 | - 5.00 | 1760.2 | - 5.03 | 1.93 |
| 10 | 650.33 | - 4.73 | 941.99 | - 4.85 | 1373.89 | - 4.89 | 1.42 |
| 15 | 515.22 | - 4.59 | 741.96 | - 4.70 | 1079.7 | - 4.75 | 0.93 |
| 20 | 410.99 | - 4.45 | 588.54 | - 4.56 | 854.12 | - 4.62 | 0.46 |
| 25 | 330.00 | - 4.33 | 470.00 | - 4.43 | 680.00 | - 4.50 | 0.00 |
| 30 | 266.64 | - 4.20 | 377.77 | - 4.31 | 544.69 | - 4.38 | 0.22 |
| 35 | 216.75 | - 4.08 | 305.53 | - 4.18 | 438.89 | - 4.26 | 0.43 |
| 40 | 177.22 | - 3.97 | 248.58 | - 4.07 | 355.64 | - 4.15 | 0.64 |
| 45 | 145.70 | - 3.86 | 203.40 | - 3.96 | 289.76 | - 4.04 | 0.84 |
| 50 | 120.43 | - 3.76 | 167.35 | - 3.85 | 237.33 | - 3.94 | 1.03 |
| 55 | 100.06 | - 3.66 | 138.42 | - 3.75 | 195.38 | - 3.84 | 1.22 |
| 60 | 83.541 | - 3.56 | 115.06 | - 3.65 | 161.62 | - 3.75 | 1.40 |
| 65 | 70.081 | - 3.47 | 96.120 | - 3.55 | 134.33 | - 3.65 | 1.58 |
| 70 | 59.059 | - 3.38 | 80.672 | - 3.46 | 112.16 | - 3.56 | 1.75 |
| 75 | 49.989 | - 3.29 | 68.012 | - 3.37 | 94.052 | - 3.48 | 1.92 |
| 80 | 42.491 | - 3.21 | 57.588 | - 3.29 | 79.204 | - 3.39 | 2.08 |
| 85 | 36.265 | - 3.13 | 48.966 | - 3.20 | 66.973 | - 3.31 | 2.23 |
| 90 | 31.074 | - 3.05 | 41.803 | - 3.12 | 56.855 | - 3.24 | 2.54 |
| 95 | 26.726 | - 2.98 | 35.826 | - 3.05 | 48.449 | - 3.16 | 2.85 |
| 100 | 23.070 | - 2.91 | 30.819 | - 2.97 | 41.439 | - 3.09 | 3.14 |
| 105 | 19.985 | - 2.84 | 26.608 | - 2.90 | 35.569 | - 3.02 | 3.43 |
| 110 | 17.371 | - 2.77 | 23.053 | - 2.83 | 30.636 | - 2.95 | 3.71 |
| 115 | 15.149 | - 2.71 | 20.039 | - 2.77 | 26.474 | - 2.89 | 3.98 |
| 120 | 13.253 | - 2.64 | 17.477 | - 2.70 | 22.952 | - 2.82 | 4.24 |
| 125 | 11.630 | - 2.58 | 15.290 | - 2.64 | 19.961 | - 2.76 | 4.50 |
| 130 | 10.236 | - 2.52 | 13.417 | - 2.58 | 17.412 | - 2.70 | 4.76 |
| 135 | 9.0345 | - 2.47 | 11.808 | - 2.53 | 15.233 | - 2.65 | 5.00 |
| 140 | 7.9963 | - 2.41 | 10.422 | - 2.47 | 13.364 | - 2.59 | 5.25 |
| 145 | 7.0964 | - 2.36 | 9.2239 | - 2.42 | 11.757 | - 2.54 | 5.48 |
| 150 | 6.3142 | - 2.31 | 8.1851 | - 2.36 | 10.371 | - 2.48 | 5.71 |

SOLDERING CONDITIONS

This SMD thermistor is only suitable for wave or reflow soldering, in accordance with JEDEC J-STD-020. The maximum temperature of 260 °C during 40 s should not be exceeded.

Typical examples of a soldering processes that will provide reliable joints without damage, are shown below.



Dimensions of the solder lands



TESTS AND REQUIREMENTS

| SOLDERABILITY AND RESISTANCE TO SOLDERING HEAT | | | | |
|--|----------------|------------------------------|----------------|-----------------------------|
| IEC 60068-2-58 | TEST METHOD | TEST | PROCEDURE | REQUIREMENTS |
| 6 | T _C | Solderability | 2 s at 235 °C | Min. 95 % of surface wetted |
| | | Resistance to soldering heat | 10 s at 260 °C | $\Delta R/R < 5 \%$ |

PACKAGING

TAPE SPECIFICATIONS

All tape specifications are in accordance with IEC 60286-3. Basic dimensions are given below. Carrier tape material is paper.

PAPER TAPE



DIMENSIONS OF PAPER TAPE in millimeters

| PARAMETER | DIMENSION | TOLERANCE |
|-------------------------------|-----------|-----------|
| A ₀ ⁽¹⁾ | 1.7 | ± 0.2 |
| B ₀ ⁽¹⁾ | 2.35 | ± 0.1 |
| W | 8.0 | ± 0.2 |
| E ₁ | 1.75 | ± 0.1 |
| F | 3.5 | ± 0.05 |
| D ₀ | 1.55 | ± 0.05 |
| P ₀ ⁽²⁾ | 4.0 | ± 0.1 |
| P ₁ | 4.0 | ± 0.1 |
| P ₂ | 2.0 | ± 0.05 |
| T tape thickness | 1.1 | Max. |
| T ₁ cover tape | < 0.1 | - |

Notes

- (1) Measured 0.3 mm above base pocket
- (2) P₀ pitch cumulative error over any 10 pitches ± 1.0 mm



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