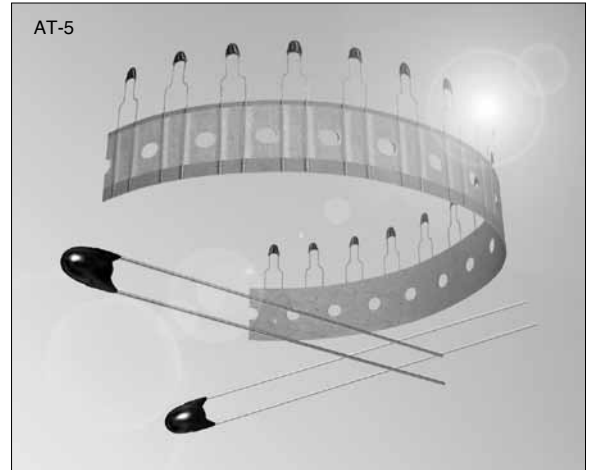


HIGH PRECISION THERMISTOR

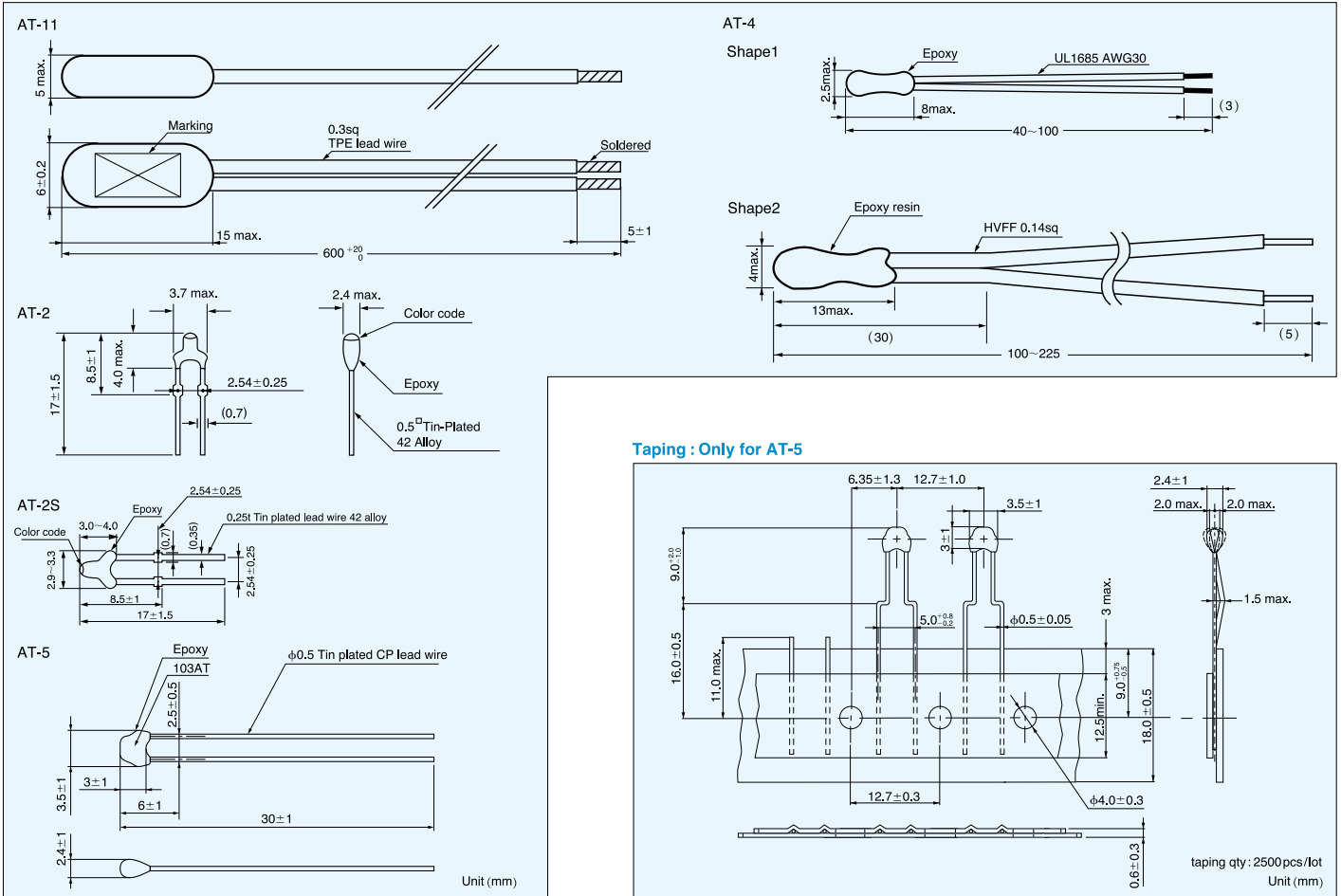
AT THERMISTOR

The AT thermistor is a high-precision thermal sensing device featuring extremely small B-value tolerance and resistance. When used as a temperature gauge, the AT thermistor requires no adjustment between the control circuit and the sensor.

This insures temperature precision of $\pm 0.3^{\circ}\text{C}$. Temperature indicators and control instruments are now available for use with the thermistor.



Dimensions



Part number



Resistance tolerance



Interchange precision



Acquisition Standard

For AT-2 type : UL1434, CSA-C22.2, No.0 Authorized.

Specifications

| Part No | R ₂₅ ¹ | B value ² | Dissipation factor (mW/°C) Approx. | Thermal time constant (s) ³ Approx. | Rated maximum power dissipation (at 25°C)(mW) | Category temp. range (°C) | Color code | |
|----------------|------------------------------|----------------------|------------------------------------|--|---|---------------------------|------------|--------|
| 102AT-2 | 1.0kΩ±1% | 3100K±1% | 2 | 15 | 10 | -50~+90 | Black | |
| 202AT-2 | 2.0kΩ±1% | 3182K±1% | | | | | Red | |
| 502AT-2 | 5.0kΩ±1% | 3324K±1% | | | | None | | |
| 103AT-2 | 10.0kΩ±1% | 3435K±1% | | | | | -50~+110 | Yellow |
| 203AT-2 | 20.0kΩ±1% | 4013K±1% | | | | | | White |
| 104AT-2 | 100.0kΩ±1% | 4665K±1% | 3 | 75 | 13 | -50~+90 | | |
| 102AT-11 | 1.0kΩ±1% | 3100K±1% | | | | | | |
| 202AT-11 | 2.0kΩ±1% | 3182K±1% | | | | | | |
| 502AT-11 | 5.0kΩ±1% | 3324K±1% | | | | -50~+105 | | |
| 103AT-11 | 10.0kΩ±1% | 3435K±1% | | | | | | |
| 103AT-4 Shape1 | 10.0kΩ±1% | 3435K±1% | 2 | 10 | 10 | -50~+90 | None | |
| 103AT-4 Shape2 | 10.0kΩ±1% | 3435K±1% | 4 | 35 | 20 | | | |
| 103AT-2S | 10.0kΩ±1% | 3435K±1% | 1 | 15 | 5 | -50~+110 | White | |
| 103AT-5 | 10.0kΩ±1% | 3435K±1% | 2.5 | | 12.5 | | None | |

※Other resistance is also available, please ask.

¹ R₂₅ : Rated zero-power resistance value at 25°C.

² B value : determined by rated zero-power resistance at 25°C and 85°C.

³ Time when thermistor temperature reaches 63.2% of the temperature difference. The value is measured in the air.

Resistance - Temperature

| Temperature (°C) | Type | | | | | | | Temperature (°C) | Type | | | | | | |
|------------------|--------|-------|-------|-------|-------|-------|-------|------------------|--------|--------|--------|--------|--------|-------|-------|
| | 102AT | 202AT | 502AT | 103AT | 203AT | 503AT | 104AT | | 102AT | 202AT | 502AT | 103AT | 203AT | 503AT | 104AT |
| -50 | 24.46 | 55.66 | 154.6 | 329.5 | 1253 | 3168 | 11473 | 35 | 0.7229 | 1.424 | 3.508 | 6.940 | 13.06 | 32.48 | 60.94 |
| -45 | 18.68 | 42.17 | 116.5 | 247.7 | 890.5 | 2257 | 7781 | 40 | 0.6189 | 1.211 | 2.961 | 5.827 | 10.65 | 26.43 | 48.10 |
| -40 | 14.43 | 32.34 | 88.91 | 188.5 | 642.0 | 1632 | 5366 | 45 | 0.5316 | 1.033 | 2.509 | 4.911 | 8.716 | 21.59 | 38.13 |
| -35 | 11.23 | 24.96 | 68.19 | 144.1 | 465.8 | 1186 | 3728 | 50 | 0.4587 | 0.8854 | 2.137 | 4.160 | 7.181 | 17.75 | 30.44 |
| -30 | 8.834 | 19.48 | 52.87 | 111.3 | 342.5 | 872.8 | 2629 | 55 | 0.3967 | 0.7620 | 1.826 | 3.536 | 5.941 | 14.64 | 24.42 |
| -25 | 6.998 | 15.29 | 41.21 | 86.43 | 253.6 | 646.3 | 1864 | 60 | 0.3446 | 0.6587 | 1.567 | 3.020 | 4.943 | 12.15 | 19.72 |
| -20 | 5.594 | 12.11 | 32.44 | 67.77 | 190.0 | 484.3 | 1340 | 65 | 0.3000 | 0.5713 | 1.350 | 2.588 | 4.127 | 10.13 | 15.99 |
| -15 | 4.501 | 9.655 | 25.66 | 53.41 | 143.2 | 364.6 | 969.0 | 70 | 0.2622 | 0.4975 | 1.168 | 2.228 | 3.464 | 8.482 | 13.05 |
| -10 | 3.651 | 7.763 | 20.48 | 42.47 | 109.1 | 277.5 | 709.5 | 75 | 0.2285 | 0.4343 | 1.014 | 1.924 | 2.916 | 7.129 | 10.68 |
| -5 | 2.979 | 6.277 | 16.43 | 33.90 | 83.75 | 212.3 | 523.3 | 80 | 0.1999 | 0.3807 | 0.8835 | 1.668 | 2.468 | 6.022 | 8.796 |
| 0 | 2.449 | 5.114 | 13.29 | 27.28 | 64.88 | 164.0 | 390.3 | 85 | 0.1751 | 0.3346 | 0.7722 | 1.451 | 2.096 | 5.105 | 7.271 |
| 5 | 2.024 | 4.188 | 10.80 | 22.05 | 50.53 | 127.5 | 292.5 | 90 | 0.1536 | 0.2949 | 0.6771 | 1.266 | 1.788 | 4.345 | 6.041 |
| 10 | 1.684 | 3.454 | 8.840 | 17.96 | 39.71 | 99.99 | 221.5 | 95 | | | 0.5961 | 1.108 | 1.530 | 3.712 | 5.037 |
| 15 | 1.408 | 2.862 | 7.267 | 14.69 | 31.36 | 78.77 | 168.6 | 100 | | | 0.5265 | 0.9731 | 1.315 | 3.185 | 4.220 |
| 20 | 1.184 | 2.387 | 6.013 | 12.09 | 24.96 | 62.56 | 129.5 | 105 | | | 0.4654 | 0.8572 | 1.134 | 2.741 | 3.546 |
| 25 | 1.000 | 2.000 | 5.000 | 10.00 | 20.00 | 50.00 | 100.0 | 110 | | | 0.4128 | 0.7576 | 0.9807 | 2.369 | 2.994 |
| 30 | 0.8486 | 1.684 | 4.179 | 8.313 | 16.12 | 40.20 | 77.81 | | | | | | | | |

Unit(kΩ)

Mouser Electronics

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