

10K3A1 SERIES 1

Thermistor

SPECIFICATIONS

- **Thermally conductive epoxy coating**
- **Ø 2.4 mm Maximum Diameter**
- **32 AWG Alloy 180 Leads**
- **Choice of 4 temperature tolerance classifications**
- **RoHS Compliant**

The BetaCURVE Chip is Soldered to 32 AWG Alloy 180 Leads and Encapsulated in Stycast Epoxy Resin

FEATURES

- Interchangeability
- Proven Stability and Reliability
- Rapid time response
- Alloy lead wires for reduced thermal conductivity ("stem effect")
- Thermally Conductive Epoxy Coating
- Temperature range -40 °C to +125°C

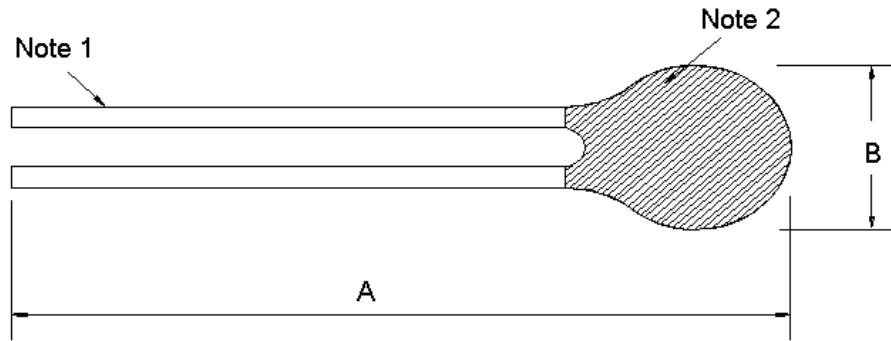
APPLICATIONS

- Temperature sensing, control and compensation
- Tight Tolerance Instrumentation
- Assembly into probes for a wide variety of applications
- General Instrumentation applications

PERFORMANCE SPECS

| Parameters | Units | Value |
|--|---------|--------|
| Resistance @ +25°C | Ohms | 10,000 |
| 10K3A1A Resistance tolerance from 0°C to +70°C | °C | 0.1 |
| 10K3A1B Resistance tolerance from 0°C to +70°C | °C | 0.2 |
| 10K3A1C Resistance tolerance from 0°C to +70°C | °C | 0.5 |
| 10K3A1D Resistance tolerance from 0°C to +70°C | °C | 1.0 |
| Alpha Value @ 25°C | %/°C | 4.39 |
| Beta Value 25/85 | K | 3976 |
| Tolerance on Beta Value 25/85 | % | 0.5 |
| Time response in Liquids | Seconds | <1 |
| Dissipation Constant in still air | mW/°C | 0.75 |

MECHANICAL DETAILS



| | Dimensions | |
|---------------|------------------------------|-----------|
| | A | B |
| | 76 ± 2mm | 2.4mm Max |
| Note 1 | 32 AWG Solid Alloy 180 Leads | |
| Note 2 | Yellow Stycast 2850ft Epoxy | |

RESISTANCE V TEMPERATURE TABLE

| Temp. °C | Ohms |
|----------|------|
|----------|------|

| | |
|-----|--------|
| -40 | 336098 |
| -39 | 314553 |
| -38 | 294524 |
| -37 | 275897 |
| -36 | 258563 |
| -35 | 242427 |
| -34 | 227398 |
| -33 | 213394 |
| -32 | 200339 |
| -31 | 188163 |
| -30 | 176803 |
| -29 | 166198 |
| -28 | 156294 |
| -27 | 147042 |
| -26 | 138393 |
| -25 | 130306 |
| -24 | 122741 |
| -23 | 115661 |
| -22 | 109032 |
| -21 | 102824 |
| -20 | 97006 |
| -19 | 91553 |
| -18 | 86439 |
| -17 | 81641 |
| -16 | 77138 |
| -15 | 72911 |
| -14 | 68940 |
| -13 | 65209 |
| -12 | 61703 |
| -11 | 58405 |
| -10 | 55304 |
| -9 | 52385 |
| -8 | 49638 |
| -7 | 47050 |
| -6 | 44613 |
| -5 | 42317 |
| -4 | 40151 |
| -3 | 38110 |
| -2 | 36184 |
| -1 | 34366 |
| 0 | 32651 |

| Temp. °C | Ohms |
|----------|------|
|----------|------|

| | |
|----|-------|
| 1 | 31031 |
| 2 | 29500 |
| 3 | 28054 |
| 4 | 26687 |
| 5 | 25395 |
| 6 | 24172 |
| 7 | 23016 |
| 8 | 21921 |
| 9 | 20885 |
| 10 | 19903 |
| 11 | 18973 |
| 12 | 18092 |
| 13 | 17257 |
| 14 | 16465 |
| 15 | 15714 |
| 16 | 15001 |
| 17 | 14324 |
| 18 | 13682 |
| 19 | 13073 |
| 20 | 12493 |
| 21 | 11943 |
| 22 | 11420 |
| 23 | 10923 |
| 24 | 10450 |
| 25 | 10000 |
| 26 | 9572 |
| 27 | 9165 |
| 28 | 8777 |
| 29 | 8408 |
| 30 | 8056 |
| 31 | 7721 |
| 32 | 7402 |
| 33 | 7097 |
| 34 | 6807 |
| 35 | 6530 |
| 36 | 6266 |
| 37 | 6014 |
| 38 | 5774 |
| 39 | 5544 |
| 40 | 5325 |
| 41 | 5116 |

| Temp. °C | Ohms |
|----------|------|
|----------|------|

| | |
|----|------|
| 42 | 4916 |
| 43 | 4724 |
| 44 | 4542 |
| 45 | 4367 |
| 46 | 4200 |
| 47 | 4040 |
| 48 | 3887 |
| 49 | 3741 |
| 50 | 3601 |
| 51 | 3467 |
| 52 | 3339 |
| 53 | 3216 |
| 54 | 3098 |
| 55 | 2985 |
| 56 | 2877 |
| 57 | 2773 |
| 58 | 2674 |
| 59 | 2579 |
| 60 | 2487 |
| 61 | 2399 |
| 62 | 2315 |
| 63 | 2234 |
| 64 | 2157 |
| 65 | 2082 |
| 66 | 2011 |
| 67 | 1942 |
| 68 | 1876 |
| 69 | 1813 |
| 70 | 1752 |
| 71 | 1693 |
| 72 | 1637 |
| 73 | 1582 |
| 74 | 1530 |
| 75 | 1480 |
| 76 | 1432 |
| 77 | 1385 |
| 78 | 1341 |
| 79 | 1298 |
| 80 | 1256 |
| 81 | 1216 |
| 82 | 1178 |
| 83 | 1141 |

| Temp. °C | Ohms |
|----------|------|
|----------|------|

| | |
|-----|------|
| 84 | 1105 |
| 85 | 1070 |
| 86 | 1037 |
| 87 | 1005 |
| 88 | 974 |
| 89 | 945 |
| 90 | 916 |
| 91 | 888 |
| 92 | 862 |
| 93 | 836 |
| 94 | 811 |
| 95 | 787 |
| 96 | 764 |
| 97 | 741 |
| 98 | 720 |
| 99 | 699 |
| 100 | 678 |
| 101 | 659 |
| 102 | 640 |
| 103 | 622 |
| 104 | 604 |
| 105 | 587 |
| 106 | 571 |
| 107 | 555 |
| 108 | 539 |
| 109 | 524 |
| 110 | 510 |
| 111 | 496 |
| 112 | 482 |
| 113 | 469 |
| 114 | 457 |
| 115 | 444 |
| 116 | 432 |
| 117 | 421 |
| 118 | 410 |
| 119 | 399 |
| 120 | 388 |
| 121 | 378 |
| 122 | 368 |
| 123 | 359 |
| 124 | 350 |
| 125 | 341 |

10K3A1 SERIES 1

Thermistor

ORDERING INFORMATION

| Part Number | Description | Ω @25°C | MOQ |
|-------------|---------------------|----------------|--------|
| 10K3A1A | Series 1 Thermistor | 10,000 | 1,000* |
| 10K3A1B | Series 1 Thermistor | 10,000 | 1,000* |
| 10K3A1C | Series 1 Thermistor | 10,000 | 1,000* |
| 10K3A1D | Series 1 Thermistor | 10,000 | 1,000* |

* For quantities less than Minimum Order Quantity – Contact Distribution

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