



## GA10K3A1 SERIES I THERMISTORS

Thermally Conductive Epoxy Coating

Ø 2.4 mm Maximum Diameter

32 AWG Alloy 180 Leads

Four Temperature Tolerance Classifications Available

RoHS Compliant

BetaCURVE series I thermistors are small epoxy coated devices with solid tin-plated lead wires. The series I offers a choice of precision temperature tolerance classifications for a wide variety of customer applications, such as temperature measurements, temperature indication, temperature control, and thermal compensation.

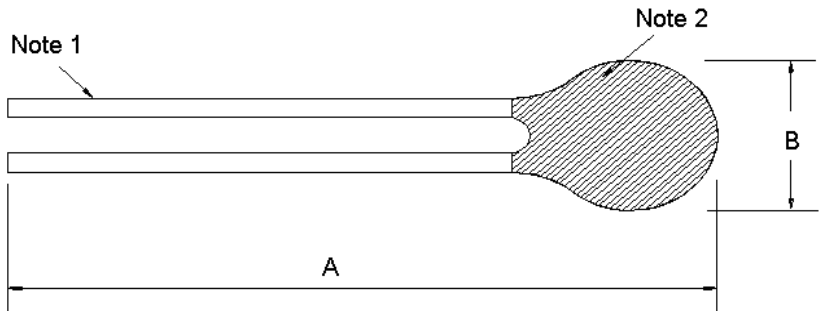
### FEATURES

- 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
- Custom probe assemblies available

### APPLICATIONS

- Temperature sensing, control and compensation
- Tight tolerance instrumentation
- General instrumentation applications

**MECHANICAL DETAILS**



**DIMENSIONS**

| A        | B           |
|----------|-------------|
| 76 ±2 mm | 2.4 mm max. |

**Note 1:** 32 AWG Solid Alloy 180 Leads

**Note 2:** Yellow Stycast 2850ft Epoxy

**PERFORMANCE SPECS**

| Parameters                                       | Units   | Value  |
|--------------------------------------------------|---------|--------|
| Nominal Resistance at +25°C                      | Ohms    | 10,000 |
| GA10K3A1A Resistance Tolerance from 0°C to +70°C | °C      | ±0.1   |
| GA10K3A1B Resistance Tolerance from 0°C to +70°C | °C      | ±0.2   |
| GA10K3A1C Resistance Tolerance from 0°C to +70°C | °C      | ±0.5   |
| GA10K3A1D Resistance Tolerance from 0°C to +70°C | °C      | ±1.0   |
| Alpha Value at +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   |

**RESISTANCE V TEMPERATURE TABLE**

| Temp. °C | Ohms   | Temp. °C | Ohms         | Temp. °C | Ohms | Temp. °C | Ohms |
|----------|--------|----------|--------------|----------|------|----------|------|
| -40      | 336098 | 2        | 29500        | 44       | 4542 | 86       | 1037 |
| -39      | 314553 | 3        | 28054        | 45       | 4367 | 87       | 1005 |
| -38      | 294524 | 4        | 26687        | 46       | 4200 | 88       | 974  |
| -37      | 275897 | 5        | 25395        | 47       | 4040 | 89       | 945  |
| -36      | 258563 | 6        | 24172        | 48       | 3887 | 90       | 916  |
| -35      | 242427 | 7        | 23016        | 49       | 3741 | 91       | 888  |
| -34      | 227398 | 8        | 21921        | 50       | 3601 | 92       | 862  |
| -33      | 213394 | 9        | 20885        | 51       | 3467 | 93       | 836  |
| -32      | 200339 | 10       | 19903        | 52       | 3339 | 94       | 811  |
| -31      | 188163 | 11       | 18973        | 53       | 3216 | 95       | 787  |
| -30      | 176803 | 12       | 18092        | 54       | 3098 | 96       | 764  |
| -29      | 166198 | 13       | 17257        | 55       | 2985 | 97       | 741  |
| -28      | 156294 | 14       | 16465        | 56       | 2877 | 98       | 720  |
| -27      | 147042 | 15       | 15714        | 57       | 2773 | 99       | 699  |
| -26      | 138393 | 16       | 15001        | 58       | 2674 | 100      | 678  |
| -25      | 130306 | 17       | 14324        | 59       | 2579 | 101      | 659  |
| -24      | 122741 | 18       | 13682        | 60       | 2487 | 102      | 640  |
| -23      | 115661 | 19       | 13073        | 61       | 2399 | 103      | 622  |
| -22      | 109032 | 20       | 12493        | 62       | 2315 | 104      | 604  |
| -21      | 102824 | 21       | 11943        | 63       | 2234 | 105      | 587  |
| -20      | 97006  | 22       | 11420        | 64       | 2157 | 106      | 571  |
| -19      | 91553  | 23       | 10923        | 65       | 2082 | 107      | 555  |
| -18      | 86439  | 24       | 10450        | 66       | 2011 | 108      | 539  |
| -17      | 81641  | 25       | <b>10000</b> | 67       | 1942 | 109      | 524  |
| -16      | 77138  | 26       | 9572         | 68       | 1876 | 110      | 510  |
| -15      | 72911  | 27       | 9165         | 69       | 1813 | 111      | 496  |
| -14      | 68940  | 28       | 8777         | 70       | 1752 | 112      | 482  |
| -13      | 65209  | 29       | 8408         | 71       | 1693 | 113      | 469  |
| -12      | 61703  | 30       | 8056         | 72       | 1637 | 114      | 457  |
| -11      | 58405  | 31       | 7721         | 73       | 1582 | 115      | 444  |
| -10      | 55304  | 32       | 7402         | 74       | 1530 | 116      | 432  |
| -9       | 52385  | 33       | 7097         | 75       | 1480 | 117      | 421  |
| -8       | 49638  | 34       | 6807         | 76       | 1432 | 118      | 410  |
| -7       | 47050  | 35       | 6530         | 77       | 1385 | 119      | 399  |
| -6       | 44613  | 36       | 6266         | 78       | 1341 | 120      | 388  |
| -5       | 42317  | 37       | 6014         | 79       | 1298 | 121      | 378  |
| -4       | 40151  | 38       | 5774         | 80       | 1256 | 122      | 368  |
| -3       | 38110  | 39       | 5544         | 81       | 1216 | 123      | 359  |
| -2       | 36184  | 40       | 5325         | 82       | 1178 | 124      | 350  |
| -1       | 34366  | 41       | 5116         | 83       | 1141 | 125      | 341  |
| 0        | 32651  | 42       | 4916         | 84       | 1105 |          |      |
| 1        | 31031  | 43       | 4724         | 85       | 1070 |          |      |

## ORDERING INFORMATION

| Part Number | Description         | $\Omega$ @25°C | MOQ*  |
|-------------|---------------------|----------------|-------|
| GA10K3A1A   | Series I thermistor | 10,000         | 1,000 |
| GA10K3A1B   | Series I thermistor | 10,000         | 1,000 |
| GA10K3A1C   | Series I thermistor | 10,000         | 1,000 |
| GA10K3A1D   | Series I thermistor | 10,000         | 1,000 |

\* For quantities less than MOQ (Minimum Order Quantity) contact Distribution

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