



## GA10K4A1 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.

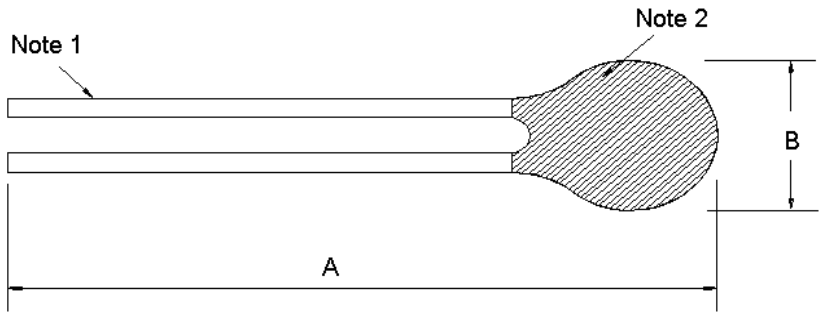
### FEATURES

- 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:** Black Stycast 2850ft Epoxy

**PERFORMANCE SPECS**

| Parameters                                       | Units   | Value  |
|--------------------------------------------------|---------|--------|
| Nominal Resistance at +25°C                      | Ohms    | 10,000 |
| GA10K4A1A Resistance Tolerance from 0°C to +70°C | °C      | ±0.1   |
| GA10K4A1B Resistance Tolerance from 0°C to +70°C | °C      | ±0.2   |
| GA10K4A1C Resistance Tolerance from 0°C to +70°C | °C      | ±0.5   |
| GA10K4A1D Resistance Tolerance from 0°C to +70°C | °C      | ±1.0   |
| Alpha Value at +25°C                             | %/°C    | 4.04   |
| Beta Value 25/85                                 | K       | 3694   |
| 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   |
|----------|--------|
| -40      | 239828 |
| -39      | 226103 |
| -38      | 213243 |
| -37      | 201188 |
| -36      | 189885 |
| -35      | 179282 |
| -34      | 169331 |
| -33      | 159991 |
| -32      | 151219 |
| -31      | 142978 |
| -30      | 135233 |
| -29      | 127952 |
| -28      | 121104 |
| -27      | 114661 |
| -26      | 108598 |
| -25      | 102889 |
| -24      | 97513  |
| -23      | 92448  |
| -22      | 87675  |
| -21      | 83174  |
| -20      | 78930  |
| -19      | 74926  |
| -18      | 71148  |
| -17      | 67581  |
| -16      | 64212  |
| -15      | 61031  |
| -14      | 58024  |
| -13      | 55182  |
| -12      | 52495  |
| -11      | 49954  |
| -10      | 47549  |
| -9       | 45274  |
| -8       | 43119  |
| -7       | 41079  |
| -6       | 39147  |
| -5       | 37316  |
| -4       | 35580  |
| -3       | 33935  |
| -2       | 32375  |
| -1       | 30895  |
| 0        | 29490  |

| Temp. °C | Ohms         |
|----------|--------------|
| 1        | 28157        |
| 2        | 26891        |
| 3        | 25689        |
| 4        | 24547        |
| 5        | 23462        |
| 6        | 22431        |
| 7        | 21450        |
| 8        | 20518        |
| 9        | 19631        |
| 10       | 18787        |
| 11       | 17983        |
| 12       | 17219        |
| 13       | 16490        |
| 14       | 15797        |
| 15       | 15136        |
| 16       | 14506        |
| 17       | 13906        |
| 18       | 13334        |
| 19       | 12788        |
| 20       | 12268        |
| 21       | 11771        |
| 22       | 11297        |
| 23       | 10845        |
| 24       | 10413        |
| 25       | <b>10000</b> |
| 26       | 9606         |
| 27       | 9229         |
| 28       | 8869         |
| 29       | 8525         |
| 30       | 8196         |
| 31       | 7882         |
| 32       | 7581         |
| 33       | 7293         |
| 34       | 7018         |
| 35       | 6754         |
| 36       | 6501         |
| 37       | 6260         |
| 38       | 6028         |
| 39       | 5806         |
| 40       | 5594         |
| 41       | 5390         |

| Temp. °C | Ohms |
|----------|------|
| 42       | 5195 |
| 43       | 5007 |
| 44       | 4828 |
| 45       | 4656 |
| 46       | 4490 |
| 47       | 4332 |
| 48       | 4180 |
| 49       | 4034 |
| 50       | 3893 |
| 51       | 3759 |
| 52       | 3629 |
| 53       | 3505 |
| 54       | 3386 |
| 55       | 3271 |
| 56       | 3160 |
| 57       | 3054 |
| 58       | 2952 |
| 59       | 2854 |
| 60       | 2760 |
| 61       | 2669 |
| 62       | 2582 |
| 63       | 2498 |
| 64       | 2417 |
| 65       | 2339 |
| 66       | 2264 |
| 67       | 2191 |
| 68       | 2122 |
| 69       | 2055 |
| 70       | 1990 |
| 71       | 1928 |
| 72       | 1868 |
| 73       | 1810 |
| 74       | 1754 |
| 75       | 1700 |
| 76       | 1648 |
| 77       | 1598 |
| 78       | 1550 |
| 79       | 1503 |
| 80       | 1458 |
| 81       | 1414 |
| 82       | 1372 |
| 83       | 1332 |

| Temp. °C | Ohms |
|----------|------|
| 84       | 1293 |
| 85       | 1255 |
| 86       | 1218 |
| 87       | 1183 |
| 88       | 1149 |
| 89       | 1116 |
| 90       | 1084 |
| 91       | 1053 |
| 92       | 1023 |
| 93       | 994  |
| 94       | 967  |
| 95       | 940  |
| 96       | 913  |
| 97       | 888  |
| 98       | 864  |
| 99       | 840  |
| 100      | 817  |
| 101      | 795  |
| 102      | 774  |
| 103      | 753  |
| 104      | 733  |
| 105      | 713  |
| 106      | 694  |
| 107      | 676  |
| 108      | 658  |
| 109      | 641  |
| 110      | 624  |
| 111      | 608  |
| 112      | 592  |
| 113      | 577  |
| 114      | 562  |
| 115      | 548  |
| 116      | 534  |
| 117      | 521  |
| 118      | 507  |
| 119      | 495  |
| 120      | 482  |
| 121      | 470  |
| 122      | 459  |
| 123      | 448  |
| 124      | 437  |
| 125      | 426  |

## ORDERING INFORMATION

| Part Number | Description         | $\Omega$ @25°C | MOQ*  |
|-------------|---------------------|----------------|-------|
| GA10K4A1A   | Series I thermistor | 10,000         | 1,000 |
| GA10K4A1B   | Series I thermistor | 10,000         | 1,000 |
| GA10K4A1C   | Series I thermistor | 10,000         | 1,000 |
| GA10K4A1D   | Series I thermistor | 10,000         | 1,000 |

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

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