



## 10K3A1I SERIES II

### Thermistor

#### SPECIFICATIONS

- **Thermally conductive epoxy coating**
- **Ø 2.4 mm Maximum Diameter**
- **30 AWG Solid Silver Plated Copper Leads with White PTFE Insulation**
- **Choice of 4 temperature tolerance classifications**
- **RoHS Compliant**

The BetaCURVE Chip is Soldered to 30 AWG Solid Silver Plated Copper Leads with White PTFE Insulation. Device is Encapsulated in Stycast Epoxy Resin.

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### FEATURES

- Interchangeability
- Proven Stability and Reliability
- Rapid time response
- PTFE Insulated lead Wires
- Thermally Conductive Epoxy Coating
- Temperature range -40 °C to +125°C

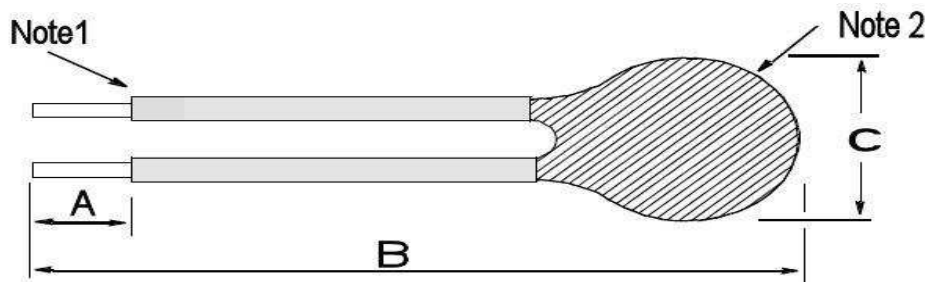
### APPLICATIONS

- 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 |
|---|---------|-------|
| Nominal Resistance at +25°C                     | Ohms    | 10000 |
| 10K3A1iA Resistance tolerance from 0°C to +70°C | °C      | ± 0.1 |
| 10K3A1iB Resistance tolerance from 0°C to +70°C | °C      | ± 0.2 |
| 10K3A1iC Resistance tolerance from 0°C to +70°C | °C      | ± 0.5 |
| 10K3A1iD 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   | 0.85  |

### MECHANICAL DETAILS



|               | Dimensions   |          |           |
|---------------|--|----------|-----------|
|               | A  | B        | C         |
|               | 10 ± 2mm   | 76 ± 2mm | 2.4mm Max |
| <b>Note 1</b> | 30 AWG Solid Silver Plated Copper Leads with White PTFE Insulation |          |           |
| <b>Note 2</b> | 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 | <b>10000</b> |
| 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 |

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

|     |      |
|-----|------|
| 83  | 1141 |
| 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  |

## 10K3A1I SERIES II

Thermistor

### ORDERING INFORMATION

| Part Number | Description                         | $\Omega$ @25°C | MOQ    |
|-------------|-------------------------------------|----------------|--------|
| 10K3A1iA    | Series II Thermistor – Epoxy Coated | 10000          | 1,000* |
| 10K3A1iB    | Series II Thermistor – Epoxy Coated | 10000          | 1,000* |
| 10K3A1iC    | Series II Thermistor – Epoxy Coated | 10000          | 1,000* |
| 10K3A1iD    | Series II Thermistor – Epoxy Coated | 10000          | 1,000* |

\* For quantities less than Minimum Order Quantity – Contact Distribution

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