



## 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

### FEATURES

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

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

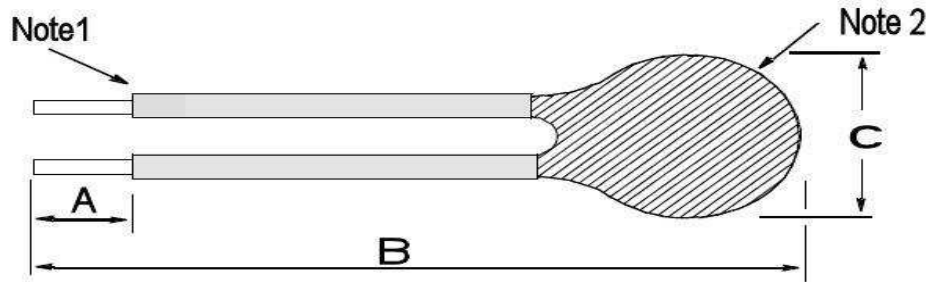
### APPLICATIONS

- 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 |
| Note 1 | 30 AWG Solid Silver Plated Copper Leads with White PTFE Insulation |          |           |
| Note 2 | Yellow Stycast 2850ft Epoxy                                        |          |           |

**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      | 10000 | 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    |
|-------------|-------------------------------------|----------------|--------|
| 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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