

## 3K3A1 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 NTC Thermistor 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

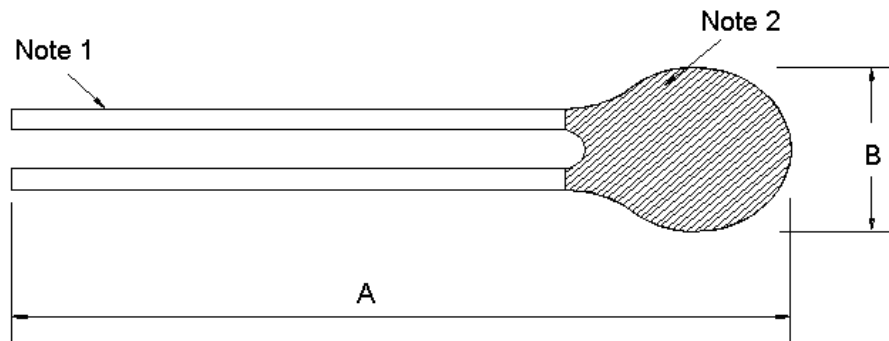
- Temperature sensing, control and compensation
- Tight Tolerance Instrumentation
- Assembly into probes for a wide variety of applications
- General Instrumentation applications

## 3K3A1 SERIES 1 THERMISTOR

### PERFORMANCE SPECS

| Parameters                                    | Units   | Value |
|---|---------|-------|
| Nominal Resistance at +25°C                   | Ohms    | 3000  |
| 3K3A1A Resistance tolerance from 0°C to +70°C | °C      | ± 0.1 |
| 3K3A1B Resistance tolerance from 0°C to +70°C | °C      | ± 0.2 |
| 3K3A1C Resistance tolerance from 0°C to +70°C | °C      | ± 0.5 |
| 3K3A1D 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 |
| <b>Note 1</b> | 32 AWG Solid Alloy 180 Leads |           |
| <b>Note 2</b> | Red Stycast 2850ft Epoxy     |           |

### 3K3A1 SERIES 1 THERMISTOR

#### RESISTANCE V TEMPERATURE TABLE

| Temp °C | Ohms   |
|---------|--------|
| -40     | 100619 |
| -39     | 94180  |
| -38     | 88194  |
| -37     | 82625  |
| -36     | 77442  |
| -35     | 72616  |
| -34     | 68121  |
| -33     | 63932  |
| -32     | 60026  |
| -31     | 56382  |
| -30     | 52982  |
| -29     | 49808  |
| -28     | 46843  |
| -27     | 44073  |
| -26     | 41484  |
| -25     | 39062  |
| -24     | 36796  |
| -23     | 34676  |
| -22     | 32690  |
| -21     | 30830  |
| -20     | 29087  |
| -19     | 27453  |
| -18     | 25921  |
| -17     | 24483  |
| -16     | 23134  |
| -15     | 21867  |
| -14     | 20676  |
| -13     | 19558  |
| -12     | 18507  |
| -11     | 17518  |
| -10     | 16588  |
| -9      | 15713  |
| -8      | 14890  |
| -7      | 14114  |
| -6      | 13383  |
| -5      | 12694  |
| -4      | 12045  |
| -3      | 11433  |
| -2      | 10855  |
| -1      | 10310  |
| 0       | 9795   |
| 1       | 9309   |

| Temp °C | Ohms |
|---------|------|
| 2       | 8850 |
| 3       | 8416 |
| 4       | 8006 |
| 5       | 7619 |
| 6       | 7252 |
| 7       | 6905 |
| 8       | 6577 |
| 9       | 6266 |
| 10      | 5971 |
| 11      | 5692 |
| 12      | 5428 |
| 13      | 5177 |
| 14      | 4940 |
| 15      | 4714 |
| 16      | 4500 |
| 17      | 4297 |
| 18      | 4105 |
| 19      | 3922 |
| 20      | 3748 |
| 21      | 3583 |
| 22      | 3426 |
| 23      | 3277 |
| 24      | 3135 |
| 25      | 3000 |
| 26      | 2872 |
| 27      | 2749 |
| 28      | 2633 |
| 29      | 2522 |
| 30      | 2417 |
| 31      | 2316 |
| 32      | 2220 |
| 33      | 2129 |
| 34      | 2042 |
| 35      | 1959 |
| 36      | 1880 |
| 37      | 1804 |
| 38      | 1732 |
| 39      | 1663 |
| 40      | 1597 |
| 41      | 1535 |
| 42      | 1475 |
| 43      | 1417 |

| Temp °C | Ohms |
|---------|------|
| 44      | 1362 |
| 45      | 1310 |
| 46      | 1260 |
| 47      | 1212 |
| 48      | 1166 |
| 49      | 1122 |
| 50      | 1080 |
| 51      | 1040 |
| 52      | 1002 |
| 53      | 965  |
| 54      | 929  |
| 55      | 895  |
| 56      | 863  |
| 57      | 832  |
| 58      | 802  |
| 59      | 774  |
| 60      | 746  |
| 61      | 720  |
| 62      | 695  |
| 63      | 670  |
| 64      | 647  |
| 65      | 625  |
| 66      | 603  |
| 67      | 583  |
| 68      | 563  |
| 69      | 544  |
| 70      | 525  |
| 71      | 508  |
| 72      | 491  |
| 73      | 475  |
| 74      | 459  |
| 75      | 444  |
| 76      | 430  |
| 77      | 416  |
| 78      | 402  |
| 79      | 389  |
| 80      | 377  |
| 81      | 365  |
| 82      | 353  |
| 83      | 342  |
| 84      | 332  |
| 85      | 321  |

| Temp °C | Ohms |
|---------|------|
| 86      | 311  |
| 87      | 302  |
| 88      | 292  |
| 89      | 283  |
| 90      | 275  |
| 91      | 267  |
| 92      | 259  |
| 93      | 251  |
| 94      | 243  |
| 95      | 236  |
| 96      | 229  |
| 97      | 222  |
| 98      | 216  |
| 99      | 210  |
| 100     | 204  |
| 101     | 198  |
| 102     | 192  |
| 103     | 187  |
| 104     | 181  |
| 105     | 176  |
| 106     | 171  |
| 107     | 167  |
| 108     | 162  |
| 109     | 157  |
| 110     | 153  |
| 111     | 149  |
| 112     | 145  |
| 113     | 141  |
| 114     | 137  |
| 115     | 133  |
| 116     | 130  |
| 117     | 126  |
| 118     | 123  |
| 119     | 120  |
| 120     | 117  |
| 121     | 114  |
| 122     | 111  |
| 123     | 108  |
| 124     | 105  |
| 125     | 102  |

## 3K3A1 SERIES 1 THERMISTOR

### ORDERING INFORMATION

| Part Number | Description         | $\Omega$ @25°C | MOQ   |
|-------------|---------------------|----------------|-------|
| 3K3A1A      | Series 1 Thermistor | 3000           | 1000* |
| 3K3A1B      | Series 1 Thermistor | 3000           | 1000* |
| 3K3A1C      | Series 1 Thermistor | 3000           | 1000* |
| 3K3A1D      | Series 1 Thermistor | 3000           | 1000* |

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

#### NORTH AMERICA

Measurement Specialties, Inc.,  
a TE Connectivity Company  
1711 139th Lane NW  
Andover, MN 55304  
Tel: +1 763 689 4870  
Fax: +1 763 689 5033  
customer care.ando@te.com

#### EUROPE

Measurement Specialties (Europe), Ltd.,  
a TE Connectivity Company  
Ballybrit Business Park  
Galway Ireland  
Tel : +353-91-753238  
Fax : +353-91-770789  
Email: customer care.glwy@te.com

#### ASIA

Measurement Specialties (China), Ltd.,  
a TE Connectivity Company  
No. 368 Wulian 1st Road  
Gongxing Town  
Shuangliu, Chengdu  
Sichuan, 610200  
China  
Tel: +86 (0) 28 8573 9088  
Fax: +86 (0) 28 8573 9070  
Email: customer care.chdu@te.com

#### te.com/sensorsolutions

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