

## Series 1 BetaCurve Bare leaded Thermistors



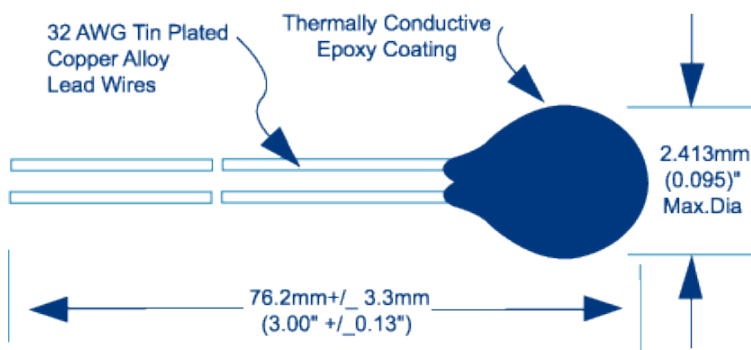
### Introduction

The BetaCURVE Thermistor Series I are small epoxy coated devices with solid tin plated lead wires. The series 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.

The BetaCURVE Series history of "long term" stability and reliability performance have been demonstrated in critical medical, scientific instrumentation, military/aerospace and industrial applications.

Thermistor interchangeability has become an important factor for cost efficiency in advanced thermal performance applications. The need for expensive individual thermistor calibration is not necessary. The BetaCURVE Series interchangeability means that each device will match the published Resistance-Temperature Characteristics for a given thermistor and will be within the specified deviation (tolerance, ie.  $\pm 0.1^{\circ}\text{C}$ ,  $\pm 0.2^{\circ}\text{C}$ ,  $\pm 0.5^{\circ}\text{C}$  and  $\pm 1.0^{\circ}\text{C}$ ) limits over the temperature range  $0^{\circ}\text{C}$  to  $70^{\circ}\text{C}$ .

### Shape and Dimensions



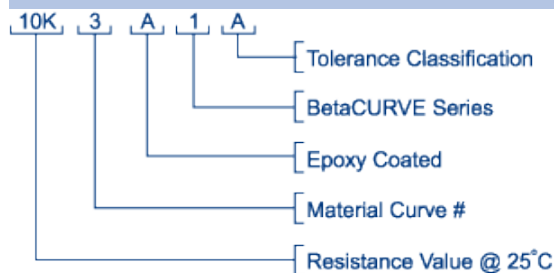
### Features

- Fast time response (1 second typical in liquids).
- DC (Dissipation Constant) =  $0.75 \text{ mW}/^{\circ}\text{C}$  typical in still air at  $25^{\circ}\text{C}$ .
- Available in custom probe assemblies.
- Tight tolerance available –  $\pm 0.1^{\circ}\text{C}$  from  $^{\circ}\text{C}$  to  $70^{\circ}\text{C}$ .
- Proven Stability and Reliability.
- Min./Max Temperature Exposure =  $-80^{\circ}\text{C}$  to  $+150^{\circ}\text{C}$ .
- Alloy lead wires for reduced thermal conductivity ("stem effect").

### Applications

- Temperature sensing, control and compensation.
- Medical equipment and patient monitoring.
- Aerospace instrumentation and crystal oscillator compensation.
- Liquid or gas temperature control and monitoring.
- Assembly into probes for a wide variety of applications.

### Part Numbering System



### Electrical Specifications

| Part | Color Code | Resistance @ | Resistance | Temperature Tolerance and Range | Alpha | 0/50 °C | Curve # |
|------|------------|--------------|------------|---------------------------------|-------|---------|---------|
|------|------------|--------------|------------|---------------------------------|-------|---------|---------|

| Number                   |        | 25°C (Ohms) | Tol. @ 25°C |                       | @ 25°C     | Beta Value |                   |
|--------------------------|--------|-------------|-------------|-----------------------|------------|------------|-------------------|
| <a href="#">2.2K3A1A</a> | Brown  | 2252        | ± 0.25%     | ± 0.1 °C (0 to 70 °C) | -4.39 %/°C | 3892       | <a href="#">3</a> |
| <a href="#">2.2K3A1B</a> | Brown  | 2252        | ± 0.50%     | ± 0.2 °C (0 to 70 °C) | -4.39 %/°C | 3892       | <a href="#">3</a> |
| <a href="#">2.2K3A1C</a> | Brown  | 2252        | ± 1.00%     | ± 0.5 °C (0 to 70 °C) | -4.39 %/°C | 3892       | <a href="#">3</a> |
| <a href="#">2.2K3A1D</a> | Brown  | 2252        | ± 2.00%     | ± 1.0 °C (0 to 70 °C) | -4.39 %/°C | 3892       | <a href="#">3</a> |
| <a href="#">3K3A1A</a>   | Red    | 3000        | ± 0.25%     | ± 0.1 °C (0 to 70 °C) | -4.39 %/°C | 3892       | <a href="#">3</a> |
| <a href="#">3K3A1B</a>   | Red    | 3000        | ± 0.50%     | ± 0.2 °C (0 to 70 °C) | -4.39 %/°C | 3892       | <a href="#">3</a> |
| <a href="#">3K3A1C</a>   | Red    | 3000        | ± 1.00%     | ± 0.5 °C (0 to 70 °C) | -4.39 %/°C | 3892       | <a href="#">3</a> |
| <a href="#">3K3A1D</a>   | Red    | 3000        | ± 2.00%     | ± 1.0 °C (0 to 70 °C) | -4.39 %/°C | 3892       | <a href="#">3</a> |
| <a href="#">5K3A1A</a>   | Orange | 5000        | ± 0.25%     | ± 0.1 °C (0 to 70 °C) | -4.39 %/°C | 3892       | <a href="#">3</a> |
| <a href="#">5K3A1B</a>   | Orange | 5000        | ± 0.50%     | ± 0.2 °C (0 to 70 °C) | -4.39 %/°C | 3892       | <a href="#">3</a> |
| <a href="#">5K3A1C</a>   | Orange | 5000        | ± 1.00%     | ± 0.5 °C (0 to 70 °C) | -4.39 %/°C | 3892       | <a href="#">3</a> |
| <a href="#">5K3A1D</a>   | Orange | 5000        | ± 2.00%     | ± 1.0 °C (0 to 70 °C) | -4.39 %/°C | 3892       | <a href="#">3</a> |
| <a href="#">10K3A1A</a>  | Yellow | 10000       | ± 0.25%     | ± 0.1 °C (0 to 70 °C) | -4.39 %/°C | 3892       | <a href="#">3</a> |
| <a href="#">10K3A1B</a>  | Yellow | 10000       | ± 0.50%     | ± 0.2 °C (0 to 70 °C) | -4.39 %/°C | 3892       | <a href="#">3</a> |
| <a href="#">10K3A1C</a>  | Yellow | 10000       | ± 1.00%     | ± 0.5 °C (0 to 70 °C) | -4.39 %/°C | 3892       | <a href="#">3</a> |
| <a href="#">10K3A1D</a>  | Yellow | 10000       | ± 2.00%     | ± 1.0 °C (0 to 70 °C) | -4.39 %/°C | 3892       | <a href="#">3</a> |
| <a href="#">10K4A1A</a>  | Black  | 10000       | ± 0.25%     | ± 0.1 °C (0 to 70 °C) | -4.04 %/°C | 3575       | <a href="#">4</a> |
| <a href="#">10K4A1B</a>  | Black  | 10000       | ± 0.50%     | ± 0.2 °C (0 to 70 °C) | -4.04 %/°C | 3575       | <a href="#">4</a> |
| <a href="#">10K4A1C</a>  | Black  | 10000       | ± 1.00%     | ± 0.5 °C (0 to 70 °C) | -4.04 %/°C | 3575       | <a href="#">4</a> |
| <a href="#">10K4A1D</a>  | Black  | 10000       | ± 2.00%     | ± 1.0 °C (0 to 70 °C) | -4.04 %/°C | 3575       | <a href="#">4</a> |
| <a href="#">30K5A1A</a>  | White  | 30000       | ± 0.25%     | ± 0.1 °C (0 to 70 °C) | -4.30 %/°C | 3811       | <a href="#">5</a> |
| <a href="#">30K5A1B</a>  | White  | 30000       | ± 0.50%     | ± 0.2 °C (0 to 70 °C) | -4.30 %/°C | 3811       | <a href="#">5</a> |
| <a href="#">30K5A1C</a>  | White  | 30000       | ± 1.00%     | ± 0.5 °C (0 to 70 °C) | -4.30 %/°C | 3811       | <a href="#">5</a> |
| <a href="#">30K5A1D</a>  | White  | 30000       | ± 2.00%     | ± 1.0 °C (0 to 70 °C) | -4.30 %/°C | 3811       | <a href="#">5</a> |
| <a href="#">30K6A1A</a>  | Green  | 30000       | ± 0.25%     | ± 0.1 °C (0 to 70 °C) | -4.68 %/°C | 4143       | <a href="#">6</a> |
| <a href="#">30K6A1B</a>  | Green  | 30000       | ± 0.50%     | ± 0.2 °C (0 to 70 °C) | -4.68 %/°C | 4143       | <a href="#">6</a> |
| <a href="#">30K6A1C</a>  | Green  | 30000       | ± 1.00%     | ± 0.5 °C (0 to 70 °C) | -4.68 %/°C | 4143       | <a href="#">6</a> |
| <a href="#">30K6A1D</a>  | Green  | 30000       | ± 2.00%     | ± 1.0 °C (0 to 70 °C) | -4.68 %/°C | 4143       | <a href="#">6</a> |
| <a href="#">50K6A1A</a>  | Blue   | 50000       | ± 0.25%     | ± 0.1 °C (0 to 70 °C) | -4.68 %/°C | 4143       | <a href="#">6</a> |
| <a href="#">50K6A1B</a>  | Blue   | 50000       | ± 0.50%     | ± 0.2 °C (0 to 70 °C) | -4.68 %/°C | 4143       | <a href="#">6</a> |
| <a href="#">50K6A1C</a>  | Blue   | 50000       | ± 1.00%     | ± 0.5 °C (0 to 70 °C) | -4.68 %/°C | 4143       | <a href="#">6</a> |
| <a href="#">50K6A1D</a>  | Blue   | 50000       | ± 2.00%     | ± 1.0 °C (0 to 70 °C) | -4.68 %/°C | 4143       | <a href="#">6</a> |
| <a href="#">100K6A1A</a> | Violet | 100000      | ± 0.25%     | ± 0.1 °C (0 to 70 °C) | -4.68 %/°C | 4143       | <a href="#">6</a> |
| <a href="#">100K6A1B</a> | Violet | 100000      | ± 0.50%     | ± 0.2 °C (0 to 70 °C) | -4.68 %/°C | 4143       | <a href="#">6</a> |
| <a href="#">100K6A1C</a> | Violet | 100000      | ± 1.00%     | ± 0.5 °C (0 to 70 °C) | -4.68 %/°C | 4143       | <a href="#">6</a> |
| <a href="#">100K6A1D</a> | Violet | 100000      | ± 2.00%     | ± 1.0 °C (0 to 70 °C) | -4.68 %/°C | 4143       | <a href="#">6</a> |

For details on the minimum order quantity (MOQ) of this product, please contact BetaTHERM or your local BetaTHERM representative.



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