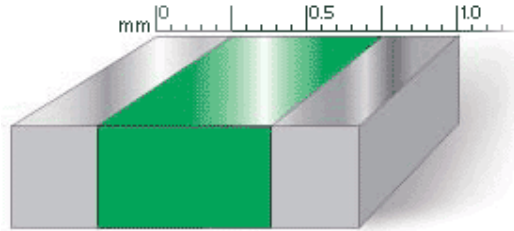


**Series 4 Surface Mount Device (SMD)**

**Introduction**

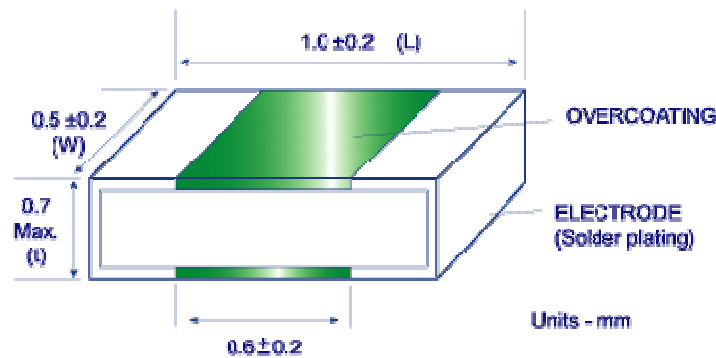


The 0402 Surface Mount NTC Thermistors from Betatherm are the ideal choice for general temperature sensing and compensation network applications in circuits that require dependable NTC thermistor characteristics.

They are available in a wide variety of standard SMD configurations from the 1206 to the 0402 packages. An extensive range of resistance values and tolerances are offered in all of the standard SMD packages. Standard resistance values from 40 ohms to 500 K ohms are manufactured in the different packages. Details of standard resistance values are given for each of the sizes (1206, 0805, 0603, and 0402) as per detailed in the table below.

With resistance tolerances of  $\pm 1\%$ ,  $\pm 3\%$  and  $\pm 5\%$ , these NTC devices are suitable for the most demanding requirements. The operating temperature range for these devices is from  $-40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$ . They are suitable for both flow and reflow soldering processes.

**Shape and Dimensions**





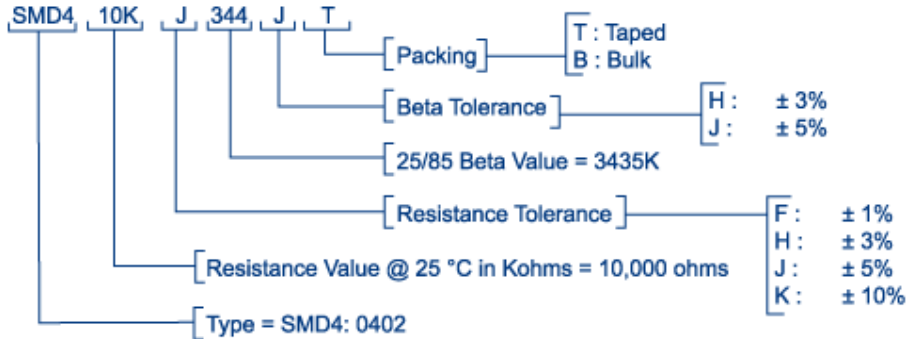
**Features**

- Cost effective.
- Tape and reel packaging for automatic placement.
- Wide range of resistance values.
- Operating temperature range from -40°C to +125°C.
- Max. rated wattage 40mW.
- Available in ±1%, ±5% and ±10% tolerance on R25 values.
- Dissipation Constant (D.C.) = 1.5 mW/°C.

**Applications**

- Temperature compensation of transistors, IC's and crystal oscillators in mobile telecommunication equipment.
- Temperature measurement and control.
- Temperature detection. LCD controls.
- Consumer Electronics.
- Automotive Electronics.

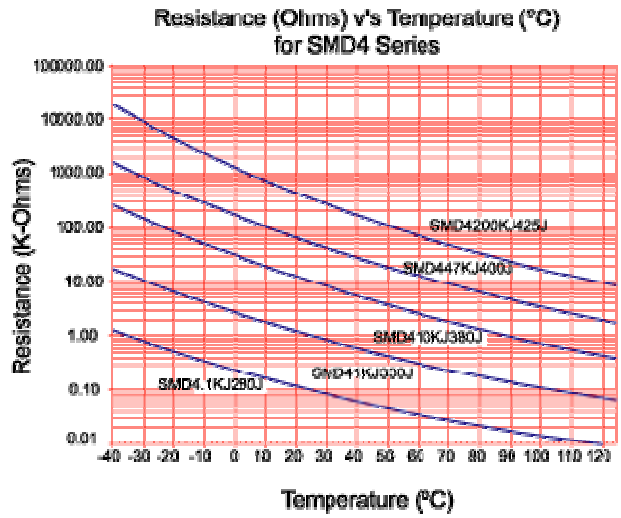
**Part Numbering System**



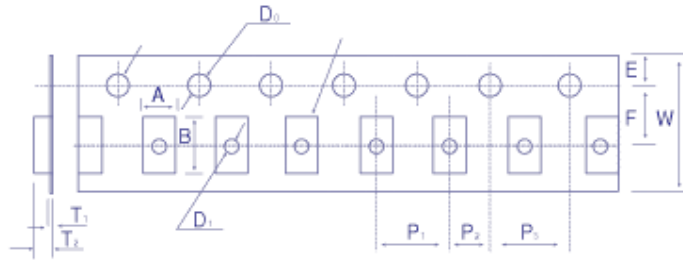
**NOTE:**  
 For Resistance Tolerance of ± 1% @ 25°C, the Beta Tolerance = H (± 3%)  
 For Resistance Tolerance of ± 3, 5 & 10% @ 25°C, the Beta Tolerance = J (± 5%)  
 Minimum Order Quantity = 3,000 (Loose) or 10,000 (Tape & Reel)



| Betatherm Part Number         | Electrical Specifications |                  |                |         |         |         | Dissipation Constant | Maximum Rated Wattage @ 25°C |
|-------------------------------|---------------------------|------------------|----------------|---------|---------|---------|----------------------|------------------------------|
|                               | R25                       | Tolerance @ 25°C | Dimension (mm) |         |         |         |                      |                              |
|                               |                           |                  | L              | W       | t       |         |                      |                              |
| <a href="#">SMD4.04KJ285J</a> | 40                        | ±5%              | 2850           | 1.0±0.2 | 0.5±0.2 | 0.7 Max | 1.5 mW/°C            | 40 mW                        |
| <a href="#">SMD4.1KJ280J</a>  | 100                       | ±5%              | 2800           | 1.0±0.2 | 0.5±0.2 | 0.7 Max | 1.5 mW/°C            | 40 mW                        |
| <a href="#">SMD41KJ330J</a>   | 1,000                     | ±5%              | 3300           | 1.0±0.2 | 0.5±0.2 | 0.7 Max | 1.5 mW/°C            | 40 mW                        |
| <a href="#">SMD42KJ410J</a>   | 2,000                     | ±5%              | 4100           | 1.0±0.2 | 0.5±0.2 | 0.7 Max | 1.5 mW/°C            | 40 mW                        |
| <a href="#">SMD43KJ410J</a>   | 3,000                     | ±5%              | 4100           | 1.0±0.2 | 0.5±0.2 | 0.7 Max | 1.5 mW/°C            | 40 mW                        |
| <a href="#">SMD44KJ410J</a>   | 4,000                     | ±5%              | 4100           | 1.0±0.2 | 0.5±0.2 | 0.7 Max | 1.5 mW/°C            | 40 mW                        |
| <a href="#">SMD410KJ344J</a>  | 10,000                    | ±5%              | 3435           | 1.0±0.2 | 0.5±0.2 | 0.7 Max | 1.5 mW/°C            | 40 mW                        |
| <a href="#">SMD410KJ380J</a>  | 10,000                    | ±5%              | 3800           | 1.0±0.2 | 0.5±0.2 | 0.7 Max | 1.5 mW/°C            | 40 mW                        |
| <a href="#">SMD415KJ380J</a>  | 15,000                    | ±5%              | 3800           | 1.0±0.2 | 0.5±0.2 | 0.7 Max | 1.5 mW/°C            | 40 mW                        |
| <a href="#">SMD420KJ380J</a>  | 20,000                    | ±5%              | 3800           | 1.0±0.2 | 0.5±0.2 | 0.7 Max | 1.5 mW/°C            | 40 mW                        |
| <a href="#">SMD430KJ400J</a>  | 30,000                    | ±5%              | 4000           | 1.0±0.2 | 0.5±0.2 | 0.7 Max | 1.5 mW/°C            | 40 mW                        |
| <a href="#">SMD447KJ400J</a>  | 47,000                    | ±5%              | 4000           | 1.0±0.2 | 0.5±0.2 | 0.7 Max | 1.5 mW/°C            | 40 mW                        |
| <a href="#">SMD4100KJ425J</a> | 100,000                   | ±5%              | 4250           | 1.0±0.2 | 0.5±0.2 | 0.7 Max | 1.5 mW/°C            | 40 mW                        |
| <a href="#">SMD4150KJ425J</a> | 150,000                   | ±5%              | 4250           | 1.0±0.2 | 0.5±0.2 | 0.7 Max | 1.5 mW/°C            | 40 mW                        |
| <a href="#">SMD4200KJ425J</a> | 200,000                   | ±5%              | 4250           | 1.0±0.2 | 0.5±0.2 | 0.7 Max | 1.5 mW/°C            | 40 mW                        |

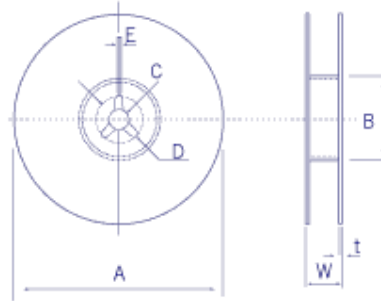


Tape Dimension (mm)



|                        |           |          |            |           |           |           |
|------------------------|-----------|----------|------------|-----------|-----------|-----------|
| <b>Parameter</b>       | A         | B        | W          | F         | E         | P1        |
| <b>Dimension in mm</b> | 0.7 ±0.1  | 1.2 ±0.1 | 18.0 ±0.02 | 3.5 ±0.05 | 1.75 ±0.1 | 2.0 ±0.05 |
| <b>Parameter</b>       | P2        | P3       | D0         | D1        | T2        | T1        |
| <b>Dimension in mm</b> | 2.0 ±0.05 | 4.0 ±0.1 | 1.5 ±0     | -         | < 0.8     | -         |

**Reel Dimension (mm)**



|                        |          |      |          |          |          |         |          |
|------------------------|----------|------|----------|----------|----------|---------|----------|
| <b>Parameter</b>       | A        | B    | C        | D        | E        | W       | t        |
| <b>Dimension in mm</b> | φ180 ±20 | >φ50 | φ13 ±0.5 | φ21 ±0.8 | 2.0 ±0.5 | 10 ±1.5 | 2.0 ±0.5 |

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