

# Surface Mount Thermistors

## NSS Series

MELF-Style, Glass-Encapsulated

REACH RoHS



### Description

The NSS series surface-mount, MELF-style, glass-encapsulated thermistors are manufactured using exceptionally stable NTC chips that are hermetically sealed in a glass package. MELF stands for Metal Electrode Leadless Face, which is a reference to a type of leadless cylindrical electronic surface mount device that is metallized at its ends. The NSS series consists of two terminals bonded into a cylindrical body. The result is an extremely reliable surface-mount package that can withstand the most severe environmental conditions. These thermistors exhibit excellent long-term reliability and stability and are well-suited for applications where their interchangeability eliminates the necessity for costly individual circuit calibration. Their uniform dimensions make them especially useful with automatic insertion equipment. These thermistors are very cost-effective and are available with options such as non-standard resistance values and tolerances, tape and reel packaging, and point-matching at specified temperatures for consistent performance.

### Features

- Moisture proof
- Miniature/practical design
- Higher density for connections
- Excellent long-term stability
- High temperature capability to +220 °C
- Surface-mountable
- Low cost

### Benefits

- High reliability
- Fast response time
- Efficient
- Cost-effective
- Superior mechanical performance
- Automated simplified production
- Consistent performance

### Applications

- Consumer technology
- Household electronics
- Heating and air-conditioning
- Industrial electronics and automation
- High temperature printer ink sensing
- Printed circuit board temperature sensing

# Surface Mount Thermistors

## NSS Series

### Specifications

| PART NUMBER       | RESISTANCE<br>IN OHMS AT 25<br>°C (Ω) | RESISTANCE<br>TOLERANCE<br>± % @ 25 °C | BETA K<br>0–50 °C | OPERATING<br>TEMPERATURE<br>MAX °C | TEMPERATURE<br>COEFFICIENT<br>@ 25 °C | RESISTANCE-<br>TEMPERATURE<br>CURVE |
|-------------------|---------------------------------------|----------------------------------------|-------------------|------------------------------------|---------------------------------------|-------------------------------------|
| NSSB203F4F2NGT001 | 20000                                 | 1                                      | –                 | 220                                | –                                     | R                                   |
| NSSM103K3T1NGT001 | 10000                                 | 10                                     | 3892              | 220                                | -4.4% / °C                            | J                                   |
| NSSM103M3T1NHT001 | 10000                                 | Nom                                    | 3892              | 220                                | -4.4% / °C                            | J                                   |

### Certification & Compliance

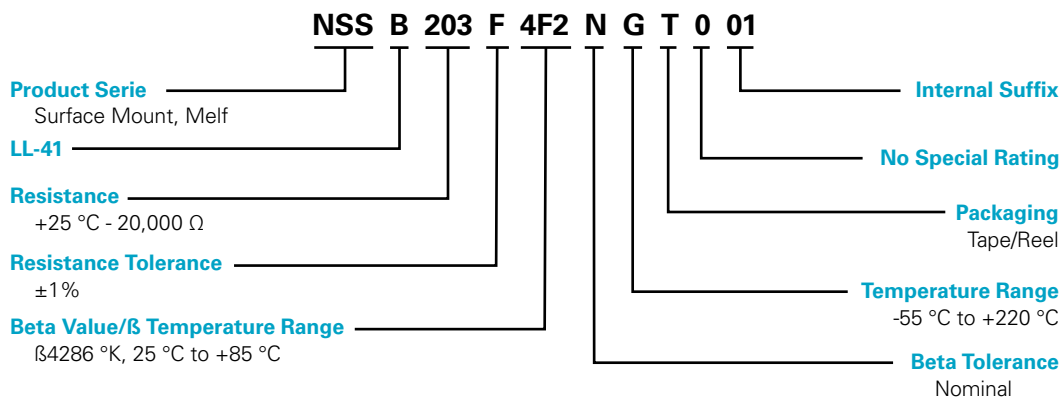
#### REACH

Reach Regulation (EC) No. 1907/2006

#### RoHS

RoHS 2 Directive 2011/65/EU; Directive (EU) 2015/863

### Part Numbering System



### Ordering Information

| CATALOG NUMBER    | PACKAGING | QUANTITY           |
|-------------------|-----------|--------------------|
| NSSB203F4F2NGT001 | Tape/Reel | 5000 pcs, 1500 pcs |
| NSSM103K3T1NGT001 | Tape/Reel | 2500 pcs           |
| NSSM103M3T1NHT001 | Tape/Reel | 2500 pcs           |

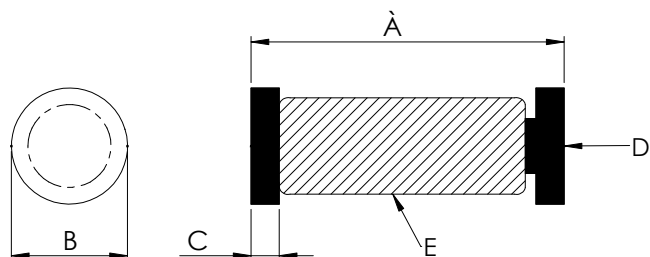
### Electrical Specifications

| RESISTANCE<br>(25 °C) Ω | RESISTANCE<br>TOLERANCE, ±% | TEMP. COEFFICIENT<br>(%/°C) | BETA (K)    | TEMP<br>RATING (°C) | THERMAL TIME<br>CONSTANT (SEC) | DISSIPATION<br>CONSTANT (MW/°C) |
|-------------------------|-----------------------------|-----------------------------|-------------|---------------------|--------------------------------|---------------------------------|
| 1000 to 2000000         | 1 to 10                     | 3.31 to 4.4                 | 2000 ~ 5000 | -40 ~ +220          | 8 Max                          | 2 ~ 3                           |

# Surface Mount Thermistors

## NSS Series

### Dimensions Inches (mm)



| A                                                                                                     | B                                                                                                | C                                                                                                 | D                     | E                   |
|-------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|-----------------------|---------------------|
| 0.075" $\pm$ 0.008" to<br>0.197" $\pm$ 0.012"<br>(1.905 $\pm$ 0.2032 mm to<br>5.0038 $\pm$ 0.3048 mm) | 0.049" $\pm$ 0.004" to<br>0.096" $\pm$ 0.008"<br>(1.2446 to 0.1016 mm to<br>2.4384 to 0.2032 mm) | 0.0075" $\pm$ 0.004" to<br>0.016" $\pm$ 0.008"<br>(0.1905 to 0.1016 mm to<br>2.4384 to 0.4064 mm) | Tinned Dumet Tab (2X) | Glass Encapsulation |

**Disclaimer Notice** – Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at [www.littelfuse.com/product-disclaimer](http://www.littelfuse.com/product-disclaimer).