

### MM Series LL-31 MicroMELF Thermistors



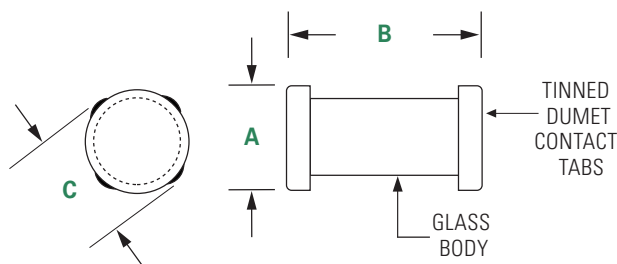
#### Description

Littelfuse LL-31 “MicroMELF” style glass encapsulated surface mount thermistors are manufactured using super stable NTC chips which are hermetically sealed in a glass package. The result is a device which exhibits excellent long-term reliability and stability even when subjected to severe environmental or thermal conditions. Their uniform dimensions make them especially suitable for use with automatic insertion equipment.

#### Options

- Non-standard resistance values and tolerances
- Point matched at specified temperatures
- Tape and Reel Packaging

#### Dimensions



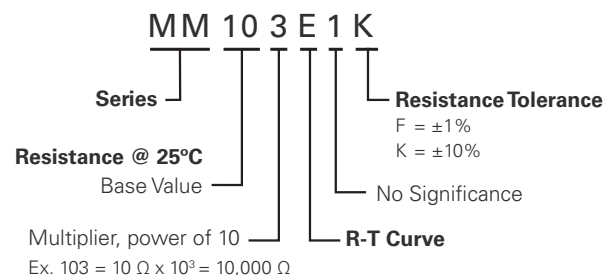
Dimensions shown in inches.

| A                  | B                  | C             |
|--------------------|--------------------|---------------|
| 0.049"<br>± 0.004" | 0.075"<br>± 0.008" | 0.053"<br>Nom |

#### Features

- High temperature capability to +220°C
- Surface mountable
- Hermetically sealed glass package
- Low cost
- Excellent long-term stability

#### Part Numbering System



**Note:** Not all combinations of Part Number codes are available. Contact Littelfuse for details.

## MM Series LL-31 MicroMELF Thermistors

### Specifications

| Part Number | Resistance Ohms @ 25°C | *Resistance Tol. ± % @ 25°C | Accuracy (±°C) 0-50°C | R-T Curve | Temperature Coefficient (% / °C) @ 25°C | Beta (K) 0-50°C | Dissipation Constant, Nominal (mW/°C) | Thermal Time Constant, Max. - Still Air (seconds) | Temperature Rating (°C) |
|-------------|------------------------|-----------------------------|-----------------------|-----------|-----------------------------------------|-----------------|---------------------------------------|---------------------------------------------------|-------------------------|
| MM222E1K    | 2186                   | 10                          | ±0.5°C                | E1        | -3.82                                   | 3320            | 1                                     | 5                                                 | -55 to +220             |
| MM302F1K    | 3000                   | 10                          | ±0.5°C                | F         | -3.86                                   | 3419            | 1                                     | 5                                                 | -55 to +220             |
| MM502F1K    | 5000                   | 10                          | ±0.5°C                | F         | -3.86                                   | 3419            | 1                                     | 5                                                 | -55 to +220             |
| MM103E1K    | 10000                  | 10                          | —                     | E1        | -3.82                                   | 3320            | 1                                     | 5                                                 | -55 to +220             |
| MM103G1K    | 10000                  | 10                          | —                     | G         | -4.03                                   | 3575            | 1                                     | 5                                                 | -55 to +220             |
| MM103J1F    | 10000                  | 1                           | —                     | J         | -4.4                                    | 3892            | 1                                     | 5                                                 | -55 to +220             |
| MM103J1K    | 10000                  | 10                          | —                     | J         | -4.4                                    | 3892            | 1                                     | 5                                                 | -55 to +220             |
| MM153J1K    | 15000                  | 10                          | —                     | J         | -4.4                                    | 3892            | 1                                     | 5                                                 | -55 to +220             |
| MM203J1F    | 20000                  | 1                           | —                     | J         | -4.4                                    | 3892            | 1                                     | 5                                                 | -55 to +220             |
| MM203J1K    | 20000                  | 10                          | ±0.5°C                | J         | -4.4                                    | 3892            | 1                                     | 5                                                 | -55 to +220             |
| MM104J1F    | 100000                 | 1                           | —                     | J         | -4.4                                    | 3892            | 1                                     | 5                                                 | -55 to +220             |
| MM104J1K    | 100000                 | 10                          | —                     | J         | -4.4                                    | 3892            | 1                                     | 5                                                 | -55 to +220             |
| MM104R1K    | 100000                 | 10                          | —                     | R         | -4.68                                   | 4140            | 1                                     | 5                                                 | -55 to +220             |
| MM254R1K    | 250000                 | 10                          | ±0.5°C                | R         | -4.68                                   | 4140            | 1                                     | 5                                                 | -55 to +220             |

\*Resistance tolerances of ± 1%, 2%, and 5% are available upon request

### Packaging

| Packaging Option | Packaging Code | Standard Quantity | Standard |
|------------------|----------------|-------------------|----------|
| Tape and Reel    | -TR            | 2500              | EIA-481  |

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