

MF51E



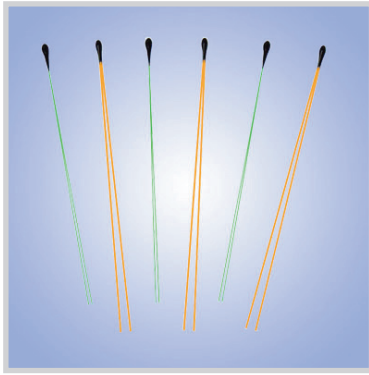
CANTHERM

Supplying high-quality bimetal and thermal sensor products.



**High Precision
NTC Thermistor for
Extremely Accurate
Temperature
Measurement**

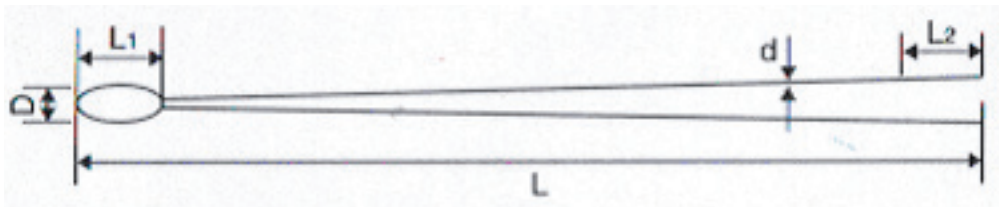
MF51E



High Precision NTC Thermistors for Extremely Accurate Temperature Measurement.

The MF51E NTC Thermistors were specially designed for use in electronic thermometers which require better than average accuracy. The extremely small size allows the thermistor to respond very quickly to tiny changes in temperature. The MF51E can be supplied un-calibrated with standard tolerances or calibrated and grouped according to R at $37^{\circ}\text{C} \pm 0.01\%$ for extreme interchangeability so as to eliminate the need for other calibrations.

Dimensions



| Dimension | D max | L 1 max | L 1 +/- 3 | L 2 +/- 1 | d +/- 0.05 |
|--------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Normal size | 1.6 | 4.0 | 100 | 3 | 0.2 |
| | 1.6 | 4.0 | 87 | 3 | 0.2 |
| Special size | Customer Specified | Customer Specified | Customer Specified | Customer Specified | Customer Specified |

Main Techno-Parameter

| Part No. | Nominal resistance R 25°C | | B Value (R25/50°C) | | Rated power (mw) | Dissipation (mW/°C) | Thermal time constant (S) | Operating temp. (°C) |
|-------------|------------------------------|------------------|-----------------------|------------------|---------------------|------------------------|------------------------------|-------------------------|
| | Range (KΩ) | Tolerance (%) | Nominal value (K) | Tolerance (%) | | | | |
| MF51E003270 | 0.2-20 | E+/-0.5 | 3270 | E+/-0.5 | 3.5 | ≥ 0.7 | ≤ 3.2 | -40° - +100 |
| MF51E003380 | 0.5-50 | | 3380 | | | | | |
| MF51E003470 | 0.5-50 | F+/-1 | 3470 | | | | | |
| MF51E003600 | 1-100 | | 3600 | | | | | |
| MF51E003950 | 5-100 | G+/-2 | 3950 | | | | | |
| MF51E004000 | 5-100 | | 4000 | | | | | |
| MF51E004050 | 5-200 | H+/-3 | 4050 | | | | | |
| MF51E004150 | 10-250 | | 4150 | | | | | |
| MF51E004300 | 20-1000 | J+/-5 | 4300 | | | | | |
| MF51E004500 | 20-1000 | | 4500 | | | | | |

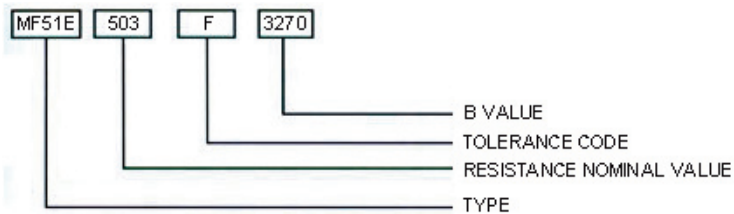
Application

- Electronic Thermometers
- Medical Equipment and Patient Monitoring

Characteristics

- Small Size and fast response and light weight
- Available tolerances: $\pm 0.5\%$, $\pm 1\%$, $\pm 2\%$, $\pm 3\%$ and $\pm 5\%$
- B Value tolerances: $\pm 0.5\%$, $\pm 1.0\%$ and $\pm 2.0\%$
- Resistance calibration available at $37^{\circ}\text{C} \pm 0.01\%$ (see table for details of grouping)
- Long-term Stability and Reliability
- Excellent Tolerance and Interchangeability
- Available in all popular resistance values
- Dissipation Constant $\geq 0.7\text{mW}/^{\circ}\text{C}$
- Time Constant of ≤ 3.2 seconds
- Rated Power: 3.5mW
- Operating Temperature Range -40°C to 100°C

Specification



Resistance Calibration at $37^{\circ}\text{C} \pm 0.01^{\circ}\text{C}$ of MF51E503F3950

| Group | Resistance $\text{K}\Omega$ | | | Group | Resistance $\text{K}\Omega$ | | | Group | Resistance $\text{K}\Omega$ | | |
|-------|-----------------------------|--------|--------|-------|-----------------------------|--------|--------|-------|-----------------------------|--------|--------|
| | min | mid | max | | min | mid | max | | min | mid | max |
| 1 | 29.085 | 29.111 | 29.137 | 12 | 29.668 | 29.695 | 29.721 | 23 | 30.264 | 30.291 | 30.318 |
| 2 | 29.138 | 29.164 | 29.189 | 13 | 29.722 | 29.749 | 29.775 | 24 | 30.319 | 30.346 | 30.373 |
| 3 | 29.190 | 29.216 | 29.242 | 14 | 29.776 | 29.802 | 29.828 | 25 | 30.374 | 30.401 | 30.428 |
| 4 | 29.243 | 29.269 | 29.294 | 15 | 29.829 | 29.856 | 29.883 | 26 | 30.429 | 30.456 | 30.483 |
| 5 | 29.295 | 29.322 | 29.348 | 16 | 29.884 | 29.910 | 29.936 | 27 | 30.484 | 30.511 | 30.538 |
| 6 | 29.349 | 29.375 | 29.400 | 17 | 29.937 | 29.964 | 29.991 | 28 | 30.539 | 30.566 | 30.593 |
| 7 | 29.401 | 29.428 | 29.454 | 18 | 29.992 | 30.019 | 30.045 | 29 | 30.594 | 30.622 | 30.649 |
| 8 | 29.455 | 29.481 | 29.507 | 19 | 30.046 | 30.073 | 30.100 | 30 | 30.650 | 30.677 | 30.703 |
| 9 | 29.508 | 29.535 | 29.561 | 20 | 30.101 | 30.128 | 30.154 | 31 | 30.704 | 30.731 | 30.758 |
| 10 | 29.562 | 29.588 | 29.614 | 21 | 30.155 | 30.182 | 30.209 | 32 | 30.759 | 30.785 | 30.811 |
| 11 | 29.615 | 29.641 | 29.667 | 22 | 30.210 | 30.237 | 30.263 | | | | |



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