

# MF52



**CANTHERM**

*Supplying high-quality bimetal and thermal sensor products.*



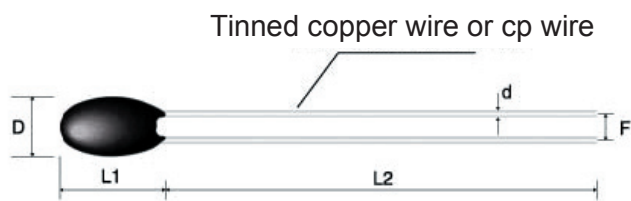
**Pearl-Shaped Precision  
NTC Thermistor  
for Temperature Measurement**

# MF52



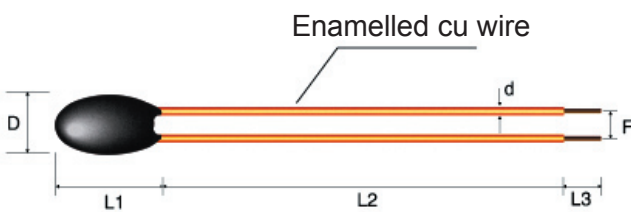
**Pearl-Shaped Precision NTC Thermistor for Temperature Measurement.** The MF52 series is ethoxyline resin coated. The small size is made possible by new materials and manufacturing methods which provide the benefit of close tolerances and fast response. MF52 thermistors are available with 5 lead styles in standard or custom lengths.

## Dimensions (mm)



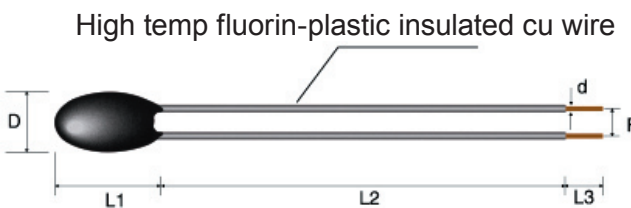
### A: Tin. Ag. nickel plated cu wire

| Code | D max | L <sub>1</sub> max | L <sub>2</sub> min | d<br>+/- 0.05 | F<br>+/- 0.5 |
|------|-------|--------------------|--------------------|---------------|--------------|
| A1   | 2.5   | 4.0                | 25                 | 0.3           | 1.7          |
| A2   | 3     | 4.5                | 25                 | 0.45          | 2.2          |



### B: Enamelled cu wire

| Code | D max | L <sub>1</sub> max | L <sub>2</sub> min | L <sub>3</sub><br>+/- 1 | d<br>+/- 0.05 |
|------|-------|--------------------|--------------------|-------------------------|---------------|
| B1   | 2     | 3.5                | Customer Specified | 3                       | 0.2           |
| B2   | 3     | 4                  | Customer Specified | 3                       | 0.3           |



### C: High temp fluorin-plastic wire

| Code | D max | L <sub>1</sub> max | L <sub>2</sub> min | L <sub>3</sub><br>+/- 1 | d<br>+/- 0.05 |
|------|-------|--------------------|--------------------|-------------------------|---------------|
| C1   | 3     | 7.5                | Customer Specified | 5                       | 0.26          |
| C2   | 4     | 7.5                | Customer Specified | 5                       | 0.32          |

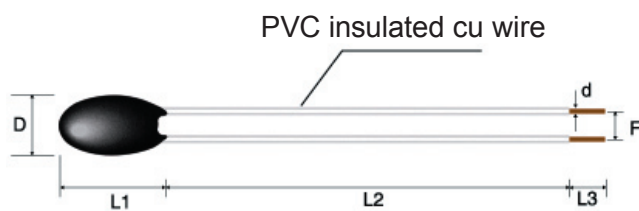


## Application

- Heating, Ventilation & Air Conditioning
- Temperature Regulation and Measurement
- Electronic Thermometers
- Liquid Level Sensing
- Automotive Electronics
- Medical Equipment and Apparatus
- Battery Packs and Portable Electronics

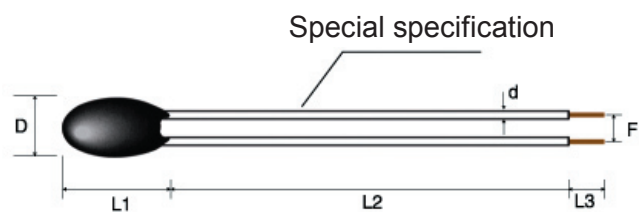
## Characteristics

- Small Size and fast response
- Available tolerances:  $\pm 1\%$ ,  $\pm 2\%$ ,  $\pm 3\%$ ,  $\pm 5\%$  and  $\pm 10\%$
- Long-term Stability and Reliability
- Excellent Tolerance and Interchangeability
- Available in all popular resistance values
- Dissipation Constant  $\geq 2.0 \text{ mW}/^\circ\text{C}$
- Time Constant of  $\leq 7$  seconds in still air
- Available in custom probes



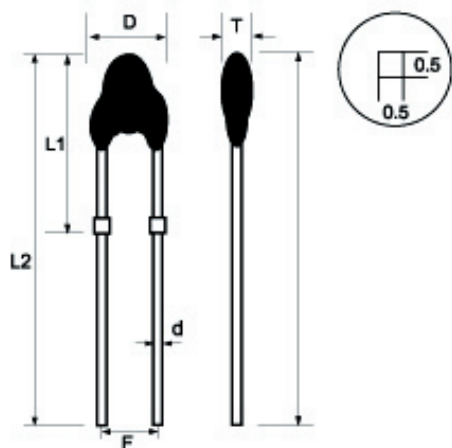
### D: PVC wire

| Code | D max | L <sub>1</sub> max | L <sub>2</sub> min | L <sub>3</sub> +/- 1 | d +/- 0.05 |
|------|-------|--------------------|--------------------|----------------------|------------|
| D1   | 3     | 7.5                | Customer Specified | 5                    | 0.26       |
| D2   | 4     | 7.5                | Customer Specified | 5                    | 0.32       |



### E: Lead and head according to specification

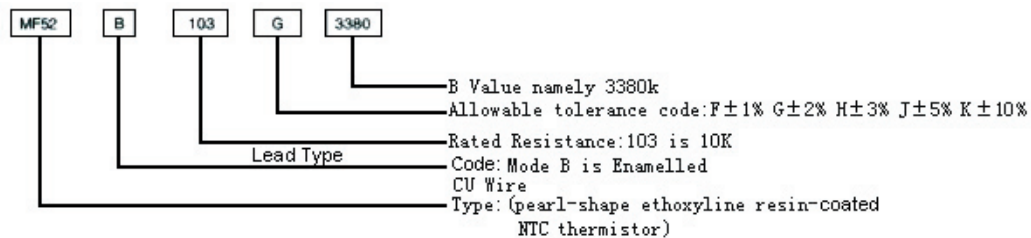
| Code | D max              | L <sub>1</sub> max | L <sub>2</sub> min | L <sub>3</sub> +/- 1 | d +/- 0.05         |
|------|--------------------|--------------------|--------------------|----------------------|--------------------|
| E1   | Customer Specified | Customer Specified | Customer Specified | 5                    | Customer Specified |
| E2   | Customer Specified | Customer Specified | Customer Specified | 5                    | Customer Specified |



### F: Tinned lead-frame style

| Code | D max | L <sub>1</sub> max | L <sub>2</sub> +/- 1.5 | d max | F +/- 0.5 | T max |
|------|-------|--------------------|------------------------|-------|-----------|-------|
| F    | 3.8   | 9.5                | 17                     | 0.5   | 2.5       | 3.5   |

## Specification



## Main Techno-Parameter

| Part No.    | Rated Resistance<br>R <sub>25</sub><br>(KΩ) | B Value<br>(25/50°C)<br>(K) | Rated Power(mw) | Dissi. Coef.<br>(mW/°C)   | Thermal time Constant(S) | Operating Temp.(°C) |
|-------------|---------------------------------------------|-----------------------------|-----------------|---------------------------|--------------------------|---------------------|
| MF52□□□3100 | 0.1-20                                      | 3100                        | ≤ 50            | ≥ 2.0<br><br>In Still Air | ≤ 7<br><br>In Still Air  | -55° - +125°C       |
| MF52□□□3270 | 0.2-20                                      | 3270                        |                 |                           |                          |                     |
| MF52□□□3380 | 0.5-50                                      | 3380                        |                 |                           |                          |                     |
| MF52□□□3470 | 0.5-50                                      | 3470                        |                 |                           |                          |                     |
| MF52□□□3600 | 1-100                                       | 3600                        |                 |                           |                          |                     |
| MF52□□□3950 | 5-100                                       | 3950                        |                 |                           |                          |                     |
| MF52□□□4000 | 5-100                                       | 4000                        |                 |                           |                          |                     |
| MF52□□□4050 | 5-200                                       | 4050                        |                 |                           |                          |                     |
| MF52□□□4150 | 10-250                                      | 4150                        |                 |                           |                          |                     |
| MF52□□□4300 | 20-1000                                     | 4300                        |                 |                           |                          |                     |
| MF52□□□4500 | 20-1000                                     | 4500                        |                 |                           |                          |                     |

Remark:

\* B Value (25/50C) error is ±1% for components with rated resistance tolerance of ±1% and ±2% for all others.

Notice:

\* The two ends of the lead wire cannot endure too big pull because of the small size and soldered spot in series of MF52.

\* Solder at least 5mm from the bottom of wire.



UL 1434  
(File E240991)



CQC  
(File 07001019009)

\* Specifications are subject to change without notice.



# CANTHERM

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