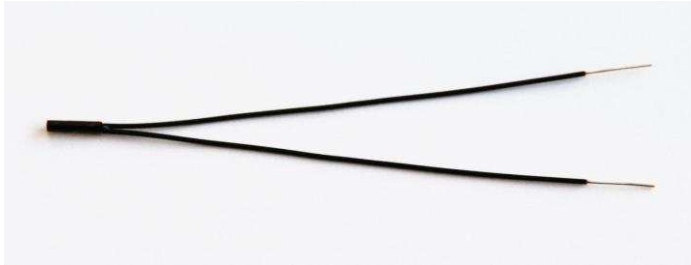


# Mini BetaCURVE Thermistor Probe (MBD)



- NTC Temperature Sensor
- Fast time response
- Small tip diameter
- Various lead lengths available

## DESCRIPTION

NTC Thermistor soldered to 30 AWG Solid Silver Plated Copper Wire with PVDF Insulation. Unit is potted in a polyimide tube with thermally conductive black epoxy.

## FEATURES

Rapid Time Constant  
(400 milliseconds in liquids).  
Standards supplied with  $\pm 0.2^\circ\text{C}$  tolerance  
( $0^\circ\text{C}$  to  $+70^\circ\text{C}$ ).  
Custom tolerances available on request  
Temperature range  $-40^\circ\text{C}$  to  $+125^\circ\text{C}$

## APPLICATIONS

Reduced size allows localized  
temperature sensing  
Small Medical probes  
Micro-flow sensing

## PERFORMANCE SPECS

| Parameters   | Units                      | Value     |
|--|----------------------------|-----------|
| Nominal Resistance at $+25^\circ\text{C}$                          | Ohms                       | 2252      |
| Resistance tolerance from $0^\circ\text{C}$ to $+70^\circ\text{C}$ | $^\circ\text{C}$           | $\pm 0.2$ |
| Alpha Value at $+25^\circ\text{C}$                                 | $\%/^\circ\text{C}$        | 4.39      |
| Beta Value 25/85   | K                          | 3976      |
| Tolerance on Beta Value 25/85                                      | %                          | $\pm 0.5$ |
| Time response in Liquids   | milliseconds               | 400       |
| Dissipation Constant in still air                                  | $\text{mW}/^\circ\text{C}$ | 0.5       |

# Mini BetaCURVE Thermistor Probe (MBD)

## MECHANICAL DETAILS

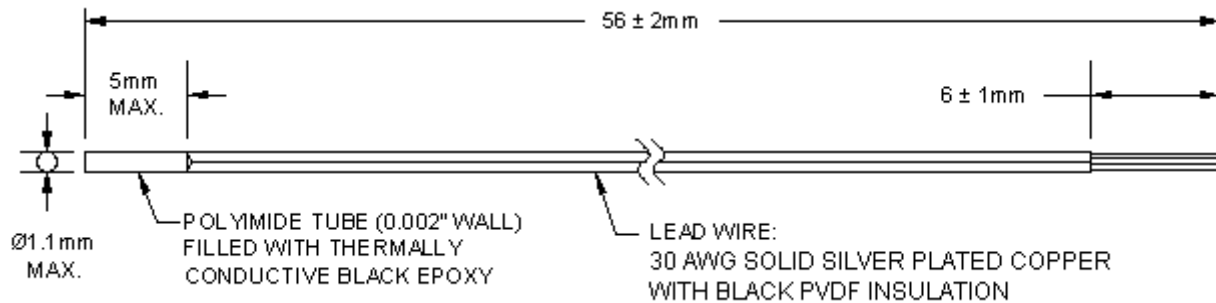


Figure 1: Mini BetaCURVE Thermistor Probe (MBD)

## RESISTANCE V TEMPERATURE TABLE

| Temp. °C | Ohms  | Temp. °C | Ohms  | Temp. °C | Ohms        | Temp. °C | Ohms |
|----------|-------|----------|-------|----------|-------------|----------|------|
| -40      | 75491 | -12      | 13892 | 16       | 3378        | 44       | 1023 |
| -39      | 70663 | -11      | 13150 | 17       | 3226        | 45       | 983  |
| -38      | 66173 | -10      | 12452 | 18       | 3081        | 46       | 946  |
| -37      | 61996 | -9       | 11795 | 19       | 2944        | 47       | 910  |
| -36      | 58109 | -8       | 11177 | 20       | 2814        | 48       | 875  |
| -35      | 54489 | -7       | 10595 | 21       | 2690        | 49       | 842  |
| -34      | 51118 | -6       | 10046 | 22       | 2572        | 50       | 811  |
| -33      | 47975 | -5       | 9529  | 23       | 2460        | 51       | 781  |
| -32      | 45045 | -4       | 9042  | 24       | 2353        | 52       | 752  |
| -31      | 42312 | -3       | 8582  | 25       | <b>2252</b> | 53       | 724  |
| -30      | 39761 | -2       | 8148  | 26       | 2156        | 54       | 698  |
| -29      | 37380 | -1       | 7739  | 27       | 2064        | 55       | 672  |
| -28      | 35156 | 0        | 7353  | 28       | 1977        | 56       | 648  |
| -27      | 33077 | 1        | 6988  | 29       | 1893        | 57       | 624  |
| -26      | 31134 | 2        | 6644  | 30       | 1814        | 58       | 602  |
| -25      | 29317 | 3        | 6318  | 31       | 1739        | 59       | 581  |
| -24      | 27617 | 4        | 6010  | 32       | 1667        | 60       | 560  |
| -23      | 26026 | 5        | 5719  | 33       | 1598        | 61       | 540  |
| -22      | 24536 | 6        | 5444  | 34       | 1533        | 62       | 521  |
| -21      | 23140 | 7        | 5183  | 35       | 1471        | 63       | 503  |
| -20      | 21832 | 8        | 4937  | 36       | 1411        | 64       | 486  |
| -19      | 20606 | 9        | 4703  | 37       | 1354        | 65       | 469  |
| -18      | 19456 | 10       | 4482  | 38       | 1300        | 66       | 453  |
| -17      | 18377 | 11       | 4273  | 39       | 1248        | 67       | 437  |
| -16      | 17364 | 12       | 4075  | 40       | 1199        | 68       | 422  |
| -15      | 16413 | 13       | 3886  | 41       | 1152        | 69       | 408  |
| -14      | 15520 | 14       | 3708  | 42       | 1107        | 70       | 394  |
| -13      | 14681 | 15       | 3539  | 43       | 1064        | 71       | 381  |

# Mini BetaCURVE Thermistor Probe (MBD)

|    |     |    |     |     |     |     |     |
|----|-----|----|-----|-----|-----|-----|-----|
| 72 | 369 | 86 | 234 | 100 | 153 | 114 | 103 |
| 73 | 356 | 87 | 226 | 101 | 149 | 115 | 100 |
| 74 | 345 | 88 | 220 | 102 | 144 | 116 | 98  |
| 75 | 333 | 89 | 213 | 103 | 140 | 117 | 95  |
| 76 | 322 | 90 | 206 | 104 | 136 | 118 | 92  |
| 77 | 312 | 91 | 200 | 105 | 132 | 119 | 90  |
| 78 | 302 | 92 | 194 | 106 | 129 | 120 | 88  |
| 79 | 292 | 93 | 188 | 107 | 125 | 121 | 85  |
| 80 | 283 | 94 | 183 | 108 | 122 | 122 | 83  |
| 81 | 274 | 95 | 177 | 109 | 118 | 123 | 81  |
| 82 | 265 | 96 | 172 | 110 | 115 | 124 | 79  |
| 83 | 257 | 97 | 167 | 111 | 112 | 125 | 77  |
| 84 | 249 | 98 | 162 | 112 | 109 |     |     |
| 85 | 241 | 99 | 157 | 113 | 106 |     |     |

## ORDERING INFORMATION

| Part Number | Description                           | $\Omega$ @25°C | MOQ    |
|-------------|---------------------------------------|----------------|--------|
| 2.2K3MBD1   | Mini BetaCurve Thermistor Probe (MBD) | 2252           | 1000 * |

\* For quantities less than Minimum Order Quantity – contact distribution

### NORTH AMERICA

Measurement Specialties, Inc.  
 910 Turnpike Road  
 Shrewsbury, MA 01545  
 Tel: 1-508-842-0516  
 Fax: 1-508-842-0342  
 Sales:  
[temperature.cs.amer@meas-spec.com](mailto:temperature.cs.amer@meas-spec.com)

### EUROPE

Measurement Specialties, Inc  
 Ballybrit Business Park  
 Galway Ireland  
 Tel: +353-91-753238  
 Fax: +353-91-770789  
 Sales:  
[temperature.cs.emea@meas-spec.com](mailto:temperature.cs.emea@meas-spec.com)

### ASIA

Measurement Specialties  
 (China) Ltd.  
 No. 26, Langshan Road,  
 Shenzhen High-tech Park  
 (North)  
 Nanshan District, Shenzhen,  
 China 518057  
 Sales:  
[temperature.cs.asia@meas-spec.com](mailto:temperature.cs.asia@meas-spec.com)

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