

MINI BETACURVE (MBD)

Thermistor Probe

SPECIFICATIONS

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

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.

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FEATURES

- Rapid Time Constant
(400 milliseconds in liquids).
- Standards supplied with $\pm 0.2^{\circ}\text{C}$ tolerance
(0°C to $+70^{\circ}\text{C}$).
- Custom tolerances available on request
- Temperature range -40°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	10000
Resistance tolerance from 0°C to $+70^{\circ}\text{C}$	$^{\circ}\text{C}$	± 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	%	± 0.5
Time response in Liquids	milliseconds	400
Dissipation Constant in still air	$\text{mW}/^{\circ}\text{C}$	0.5

MECHANICAL DETAILS

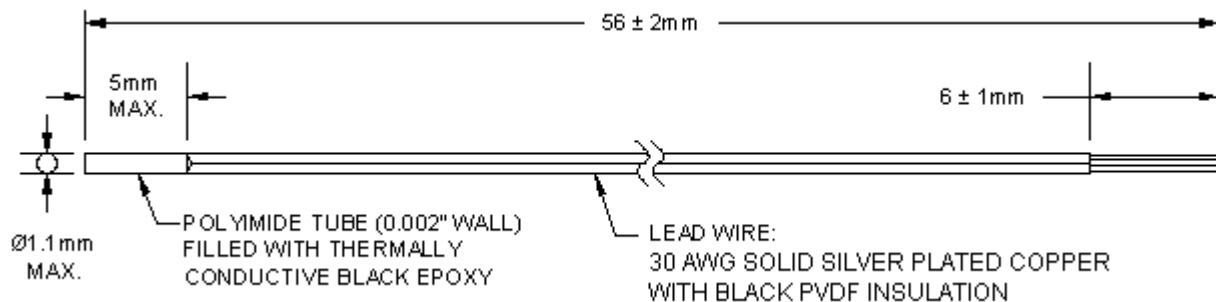


Figure 1: Mini BetaCURVE Thermistor Probe (MBD)

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RESISTANCE V TEMPERATURE TABLE

Temp. °C	Ohms
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-40	336103.2
-39	314558.0
-38	294529.1
-37	275900.8
-36	258567.0
-35	242430.2
-34	227400.9
-33	213396.6
-32	200341.4
-31	188165.5
-30	176804.8
-29	166199.8
-28	156296.1
-27	147043.2
-26	138394.7
-25	130307.6
-24	122742.3
-23	115662.2
-22	109033.4
-21	102824.6
-20	97006.9
-19	91553.3
-18	86439.2
-17	81641.4
-16	77138.6
-15	72911.1
-14	68940.4
-13	65209.7
-12	61702.9
-11	58405.5
-10	55303.9
-9	52385.2
-8	49637.8
-7	47050.6
-6	44613.4
-5	42316.7
-4	40151.6
-3	38110.0
-2	36184.0
-1	34366.6
0	32650.9

Temp. °C	Ohms
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1	31030.8
2	29500.5
3	28054.4
4	26687.5
5	25395.0
6	24172.5
7	23015.9
8	21921.2
9	20884.7
10	19903.2
11	18973.3
12	18092.2
13	17256.9
14	16464.9
15	15713.7
16	15000.9
17	14324.5
18	13682.3
19	13072.6
20	12493.3
21	11943.0
22	11419.9
23	10922.7
24	10449.8
25	10000.0
26	9572.0
27	9164.7
28	8777.0
29	8407.7
30	8056.1
31	7721.0
32	7401.7
33	7097.3
34	6807.1
35	6530.3
36	6266.2
37	6014.3
38	5773.8
39	5544.2
40	5325.0
41	5115.6

Temp. °C	Ohms
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42	4915.6
43	4724.4
44	4541.7
45	4367.0
46	4200.0
47	4040.2
48	3887.4
49	3741.1
50	3601.1
51	3467.0
52	3338.7
53	3215.8
54	3098.0
55	2985.2
56	2877.0
57	2773.3
58	2673.9
59	2578.6
60	2487.1
61	2399.4
62	2315.2
63	2234.4
64	2156.8
65	2082.3
66	2010.8
67	1942.1
68	1876.0
69	1812.6
70	1751.6
71	1693.0
72	1636.6
73	1582.4
74	1530.2
75	1480.1
76	1431.8
77	1385.3
78	1340.6
79	1297.5
80	1256.1
81	1216.1
82	1177.7

Temp. °C	Ohms
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83	1140.6
84	1104.9
85	1070.5
86	1037.3
87	1005.3
88	974.4
89	944.7
90	916.0
91	888.3
92	861.5
93	835.8
94	810.9
95	786.8
96	763.6
97	741.2
98	719.6
99	698.6
100	678.4
101	658.9
102	640.0
103	621.8
104	604.2
105	587.1
106	570.6
107	554.6
108	539.2
109	524.3
110	509.8
111	495.9
112	482.3
113	469.2
114	456.5
115	444.2
116	432.3
117	420.8
118	409.7
119	398.8
120	388.4
121	378.2
122	368.3
123	358.8
124	349.5
125	340.6