

T H E R M O M E T R I C S
A C O M M I T M E N T T O E X C E L L E N C E

NTC Type HTP Series

High Temperature Probes



Thermometrics HTP Series of NTC Type High Temperature Probes consists of a bead thermistor hermetically-sealed in the tip of a shock resistant glass rod. These units are rugged and unaffected by severe environmental exposures, including high density nuclear radiation.

All HTP Series High Temperature Probes are aged at 842°F (450°C) for extended periods of time. As such, they exhibit excellent stability for all temperatures at or below 842°F (450°C). Intermittent operations at temperatures up to 1112°F (600°C) are permissible. When additional preconditioning is specified, compliance with the performance requirements of MIL-PRF-23648 can be guaranteed.

Type HTBR55, a rugged high temperature bead thermistor, is also available on special order.

Features

- Rugged and unaffected by severe environmental exposures
- Excellent stability for all temperatures at or below 842°F (450°C)

Applications

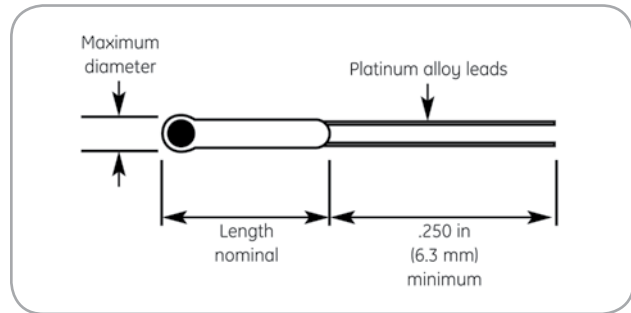
- Temperature measurement and control
- Temperature compensation
- Controlled temperature soldering stations
- Process oven control

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Type HTP Series Specifications

Thermal and Electrical Properties

The following table lists the thermal and electrical properties for all high temperature probes. All definitions and test methods are per MIL-PRF-23648.



NTC Type HTP Series dimensions

Table A

Probe Length Options				
Thermistor Type	HTP60	HTP65	HTP85	HTP100
Maximum Diameter	0.060 in (1.5 mm)	0.065 in (1.7 mm)	0.085 in (2.2 mm)	0.100 in (2.5 mm)
Standard Length Code "B"	0.250 in (6.3 mm)	0.250 in (6.3 mm)	0.250 in (6.3 mm)	0.250 in (6.3 mm)
Length Codes Available (special order only)	"A", "B", "D"	"A", "B", "D"	"A", "B", "D"	"A", "B", "D"
Lead-Wires				
Nominal Diameter	0.008 in (0.20 mm)	0.008 in (0.20 mm)	0.008 in (0.20 mm)	0.008 in (0.20 mm)
Minimum Lead Length	0.250 in (6.3 mm)	0.250 in (6.3 mm)	0.250 in (6.3 mm)	0.250 in (6.3 mm)
Lead Material	Platinum Alloy	Platinum Alloy	Platinum Alloy	Platinum Alloy
Thermal Time Constant				
Still Air at 77°F (25°C)	12 seconds	13 seconds	16 seconds	22 seconds
Dissipation Constant				
Still Air at 77°F (25°C)	0.60 mW/°C	0.65 mW/°C	0.80 mW/°C	1.0 mW/°C
Resistance Range at 257°F (125°C) ohms (Ω)				
Maximum Power	100 k to 2 M	100 k to 2 M	100 k to 2 M	100 k to 2 M
Rating	0.060 Watts	0.065 Watts	0.075 Watts	0.100 Watts

Data

Table B

Temp °F (°C)	RT/R125	Temp °F (°C)	RT/R125
257 (125)	1.00000	572 (300)	0.00793
302 (150)	0.41087	617 (325)	0.00487
347 (175)	0.18272	662 (350)	0.00310
392 (200)	0.08720	707 (375)	0.00203
437 (225)	0.04430	725 (400)	0.00138
482 (250)	0.02380	797 (425)	0.00096
527 (275)	0.01344	842 (450)	0.00068

Type HTP Series Specifications

Ordering Information

The code number to be ordered may be specified as follows:

HTP High Temperature Probe

↓	Code	Diameter													
	60	60 mils													
	65	65 mils													
	85	85 mils													
	100	100 mils													
	↓	Code	Probe Length												
		A	0.125 in (3.17 mm)												
		B	0.25 in (6.35 mm) standard												
		D	0.5 in (12.7 mm)												
	↓	Code	Material System												
D		--													
↓		Code	Resistance RT @ 257°F (125°C)*												
		514	510 kΩ												
		754	750 kΩ												
	105	1.0 MΩ													
	155	1.5 MΩ													
↓	↓	Code	Tolerance**												
		F	1												
		G	2												
		J	5												
		K	10												
		L	15												
		M	20												
		N	25												
		P	30												
		Q	40												
R	50														
S	Non-standard (consult factory)														
HTP	-	___	-	___	-	___	-	___	-	___	-	___	-	___	Typical model number

*The zero-power resistance at 257°F (125°C), expressed in Ω, is identified by a three digit code number. The first two digits represent significant figures, and the last digit specifies the number of zeros to follow. Example: 0.06 in (1.5 mm) maximum diameter x 1/4 in (6.35 mm) long glass probe with a zero-power resistance at 257°F (125°C) of 510 Ω and a tolerance of ±20% would be specified as HTP60BD514M.

**Special tolerances are available on request . Consult the factory for special resistance tolerances, non-standard resistances and/or non-standard temperatures.

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