



# NTC THERMISTORS: TYPE B35/43

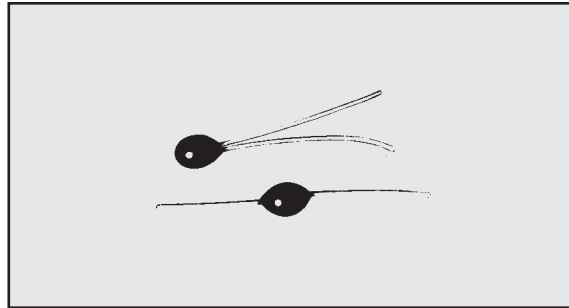
## GLASS COATED BEAD THERMISTOR

### DESCRIPTION:

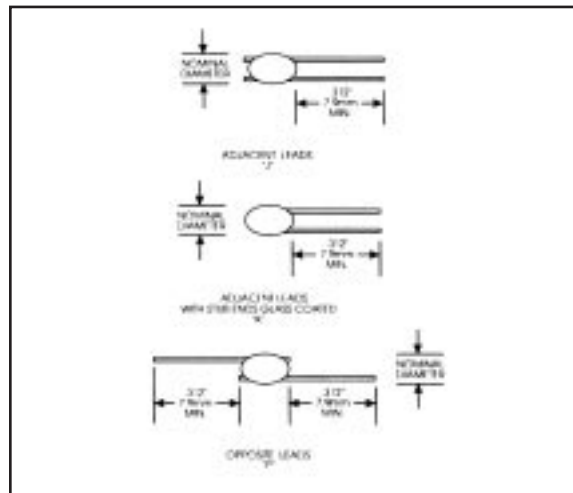
Large glass coated bead thermistors on fine diameter platinum alloy lead-wires.

### FEATURES:

- Suitable for most low cost temperature measurement, control or compensation applications
- Fast thermal response times
- Special thin glass coatings provide hermetic seal.
- Suitable for self-heated applications such as liquid level sensing or gas flow measurement.
- Normal operating/storage temperatures range from -80°C to:
  - 105°C for Material system E0
  - 200°C for Material systems A1 through A4
  - 300°C for Material systems A5 through D17
- Unaffected by severe environmental exposures, including nuclear radiation.
- Intermittent operation to 600°C is permissible, however, stability will be degraded.



### DIMENSIONS:

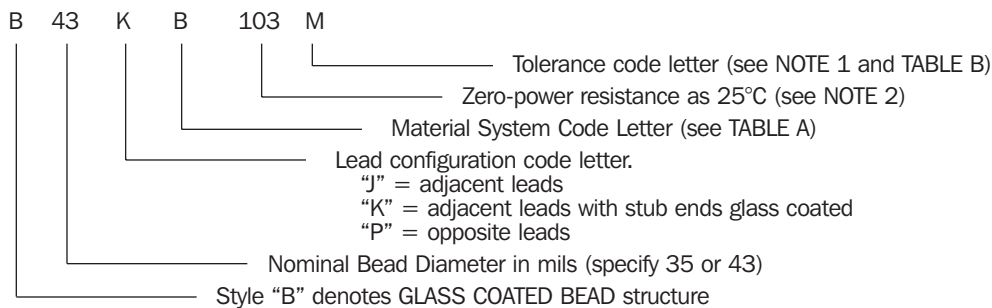


### OPTIONS:

- Non-standard resistance tolerances
- Non-standard resistance values
- Reference temperature(s) other than 25°C - specify
- Mounting in special housings or enclosures
- Longer continuous leads
- Welded or soldered extension leads - specify lead material, diameter, length and insulation, if any.
- Solderable or weldable and solderable leads
- Calibration - specify temperature(s)
- Interchangeable pairs or sets, R-vs-T curve matching – specify temperature range(s) and tolerance(s)
- Special aging and conditioning for high reliability applications

### CODING:

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



**NOTE 1:** Special tolerances are available upon request. Consult factory for special resistance tolerances, non-standard resistances and/or non-standard temperatures.

**NOTE 2:** The zero-power resistance at 25°C, expressed in Ohms, 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: 10k Ohms= "103". The standard resistance values are from the 24-Value series decade as specified in Military Standard MS90178.

1.0 / 1.1 / 1.2 / 1.3 / 1.5 / 1.6 / 1.8 / 2.0 / 2.2 / 2.4 / 2.7 / 3.0  
 3.3 / 3.6 / 3.9 / 4.3 / 4.7 / 5.1 / 5.6 / 6.2 / 6.8 / 7.5 / 8.2 / 9.1

**TABLE A: THERMAL AND ELECTRICAL PROPERTIES:**

The following table lists the THERMAL and ELECTRICAL properties for all LARGE GLASS COATED THERMISTORS. All definitions and test methods are per MIL-PRF-23648.

THERMISTOR SERIES:			B35	B43
<b>BODY DIMENSIONS:</b>				
	Nom. Diameter:		.035" (.89 mm)	.043" (1.1 mm)
	Max. Diameter:		.043" (1.1 mm)	.050" (1.3 mm)
	Max. Length:		.075" (1.9 mm)	.100" (2.5 mm)
<b>lead-wires:</b>				
	Nom. Diameter:		.004" (.10 mm)	.004" (.10 mm)
	Minimum Lead Length:		.312" (7.9 mm)	.312" (7.9 mm)
	Lead Material:		Platinum Alloy	Platinum Alloy
	Available Cuts:		"J" adj. (stubs) "K" adjacent "P" opposite	"J" adj. (stubs) "K" adjacent "P" opposite
<b>MATERIAL SYSTEM:</b>			<b>Nominal Resistance Range @ 25°C</b>	<b>Nominal Resistance Range @ 25°C</b>
<b>CODE LETTER</b>	<b>R-vs-T CURVE</b>	<b>25/125 RATIO</b>		
E	0	5.0	30 Ω – 51 Ω	30 Ω – 51 Ω
A	1	11.8	51 Ω – 150 Ω	51 Ω – 150 Ω
A	2	12.5	150 Ω – 360 Ω	150 Ω – 360 Ω
A	3	14.0	360 Ω – 750 Ω	360 Ω – 750 Ω
A	4	16.9	750 Ω – 1.5 kΩ	750 Ω – 1.5 kΩ
A	5	19.8	1.5 kΩ – 3.6 kΩ	1.5 kΩ – 3.6 kΩ
A	6	22.1	3.6 kΩ – 6.2 kΩ	3.6 kΩ – 6.2 kΩ
A	7	22.7	6.2 kΩ – 9.1 kΩ	6.2 kΩ – 9.1 kΩ
B	8	29.4	9.1 kΩ – 27 kΩ	9.1 kΩ – 27 kΩ
B	9	30.8	27 kΩ – 43 kΩ	27 kΩ – 43 kΩ
B	10	32.3	43 kΩ – 75 kΩ	43 kΩ – 75 kΩ
B	11	35.7	75 kΩ – 160 kΩ	75 kΩ – 160 kΩ
B	12	38.1	160 kΩ – 360 kΩ	160 kΩ – 360 kΩ
B	13	45.0	360 kΩ – 750 kΩ	360 kΩ – 750 kΩ
B	14	48.1	750 kΩ – 1.5 MΩ	750 kΩ – 1.5 MΩ
B	15	56.5	1.5 MΩ – 3.0 MΩ	1.5 MΩ – 3.0 MΩ
D	16	75.6	3.0 MΩ – 8.2 MΩ	3.0 MΩ – 8.2 MΩ
D	17	81.0	8.2 MΩ – 20 MΩ	8.2 MΩ – 20 MΩ
<b>THERMAL TIME CONSTANT:</b>				
	Still Air at 25°C:		4.5 sec	5.5 sec
	Plunge into Water:		100 msec	140 msec
<b>DISSIPATION CONSTANT:</b>				
	Still Air at 25°C:		.30 mW/°C	.35 mW/°C
	Still Water at 25°C:		1.50 mW/°C	2.00 mW/°C
<b>POWER RATING: (in air)</b>				
	Maximum Power Rating:		.035 Watts	.035 Watts
	100% Max. Power to:		150°C	150°C
	Derated to 0% at:		300°C	300°C

RESISTANCE -VS- TEMPERATURE CHARACTERISTICS: The nominal resistance range for the zero-power resistance at 25°C is shown for each THERMISTOR Type and each available Material System. Each Material System is denoted by an ordering Code Letter, a referenced Curve number and the nominal 25°C/125°C resistance ratio.

**TABLE B: STANDARD TOLERANCES:**

Tolerance Code Letter	F	G	J	K	L	M	N	P	Q	R	S
± % Tolerance at 25°C	1	2	5	10	15	20	25	30	40	50	Non-standard – consult factory