AA- and XYZ- series
Bondable Thermal Resistors (BTR)

BCM SENSOR

Description

BCM bondable thermal resistors (BTR) are developed for temperature measurement when the temperature of an object's surface varies either due to the temperature change of the objects itself (AA-series BTR) or because of the friction between the surfaces of the two concerned objects (XYZ-series BTR).

The AA-series BTR is found a powerful sensing element to detect the temperature change on the metal surface, e.g. the temperature change on the metal surface due to medium flow, especially fluid flow, through pipe-lines, or the temperature change on the surface of car engines.

The XYZ-series BTR is designed to detect the temperature change induced by friction between surfaces of two objects. In this regard, the XYZ-series BTR is often used to detect the magnitude of the friction-induced thermal strain, and map out the thermal strain profile and its evolution with time. Thanks to the unique design, the XYZ-series BTR has its many applications in automotive, aviation, and satellite industries to measure the friction-induced thermal strain.

Ordering Information

resistance in Ohm

backing material

foil alloy

gauge type

grid length of thermal resistor

gauge pattern

solder-pads

ordering code example: **E N I – 100 – 3 AA – SP**

E: encapsulated resistor
O: open-faced resistor

N: nickel

solder-pads finishing
SP: naked solder pads
SD: tined solder pads (solder dot)
RL: silver-coated round copper leads (30mm)
FR: silver-coated flat copper leads (30mm)
CW: enamel insulated copper wires (30 mm)

backing material vs working temperature range
I: polyimide resin: -60 ~ +160 °C
A: advanced polyimide: -160 ~ +200 °C
G: glass-fiber reinforced polyimide: -260 ~ +250 °C

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Description

1. AA-series BTR for Surface Temperature Measurement

Pattern	Ordering Code	Resistance @0°C (Ω)	Active Grid Dimensions L x W (mm)	Backing Dimensions L x W (mm)
	ENI-50-3AA-SP	50.0	3.4 x 2.9	7.1 x 4.2
	ENA-50-3AA-SP	50.0	3.4 x 2.9	7.1 x 4.2
	ENG-50-3AA-SP	50.0	3.4 x 2.9	7.1 x 4.2
	ENI-100-4AA-SP	100.0	4.0 x 6.0	8.0 x 8.0
	ENA-100-4AA-SP	100.0	4.0 x 6.0	8.0 x 8.0
	ENG-100-4AA-SP	100.0	4.0 x 6.0	8.0 x 8.0
	ENI-50-6AA-SP	50.0	6.0 x 5.0	9.0 x 8.0
	ENA-50-6AA-SP	50.0	6.0 x 5.0	9.0 x 8.0
	ENG-50-6AA-SP	50.0	6.0 x 5.0	9.0 x 8.0
	ENI-100-7AA-SP	100.0	7.0 x 5.0	11.0 x 8.0
	ENA-100-7AA-SP	100.0	7.0 x 5.0	11.0 x 8.0
	ENG-100-7AA-SP	100.0	7.0 x 5.0	11.0 x 8.0
	ENI-50-9AA-SP	50.0	9.0 x 5.0	12.0 x 8.0
	ENA-50-9AA-SP	50.0	9.0 x 5.0	12.0 x 8.0
	ENG-50-9AA-SP	50.0	9.0 x 5.0	12.0 x 8.0
	ENI-100-10AA-SP	100.0	10.0 x 6.0	16.0 x 9.0
	ENA-100-10AA-SP	100.0	10.0 x 6.0	16.0 x 9.0
	ENG-100-10AA-SP	100.0	10.0 x 6.0	16.0 x 9.0

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2. XYZ-series BTR for Friction-induced Thermal Strain Measurement

Pattern	Ordering Code	Resistance @25°C (Ω)	Active Grid Dimensions L x W (mm)	Backing Dimensions L x W (mm)
	ENI-2-7YY-SP	2.0	7.0 x 5.0	10.0 x 7.0
	ENA-2-7YY-SP	2.0	7.0 x 5.0	10.0 x 7.0
	ENG-2-7YY-SP	2.0	7.0 x 5.0	10.0 x 7.0
	ENI-3-7YY-SP	3.0	7.0 x 6.0	10.0 x 8.0
	ENA-3-7YY-SP	3.0	7.0 x 6.0	10.0 x 8.0
	ENG-3-7YY-SP	3.0	7.0 x 6.0	10.0 x 8.0

The listed specifications and dimensions are subject to change without prior notice.

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