

## IEPE Miniature Modal Testing Accelerometer

### DETAILS

The BXXBMX series of miniature accelerometers incorporate a built-in miniature impedance converter that transforms charge signals generated during vibration into voltage signals. This sensor model exhibits exceptional long-term stability and repeatability. The housing is constructed from titanium alloy using laser welding.

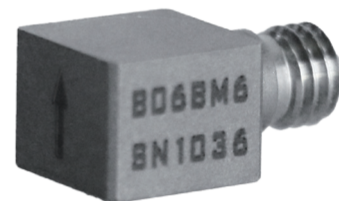
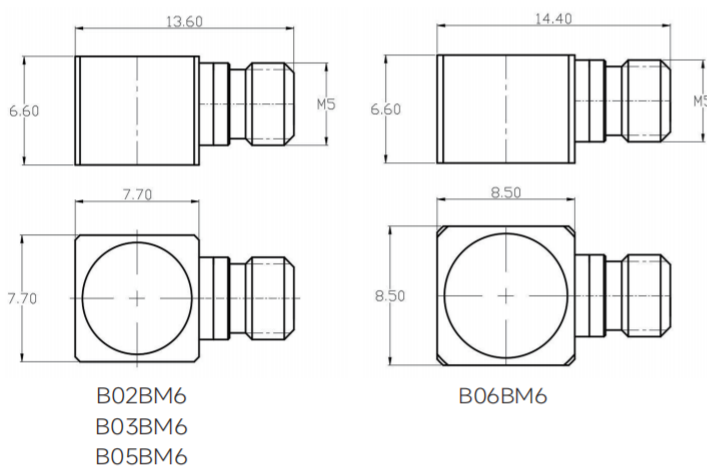
### FEATURES

- Compact and lightweight
- Shear structure
- Broadband response

### TYPICAL APPLICATIONS

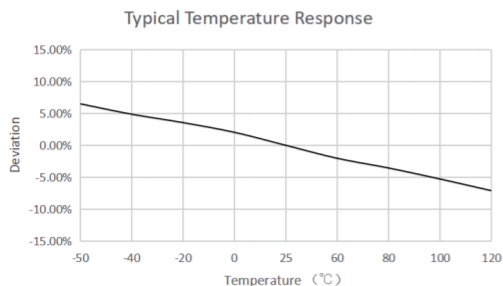
- PC board testing
- ESS testing
- Vibration measurement in space-constrained environments

**Fig\_1** Dimensions of BXXBM6

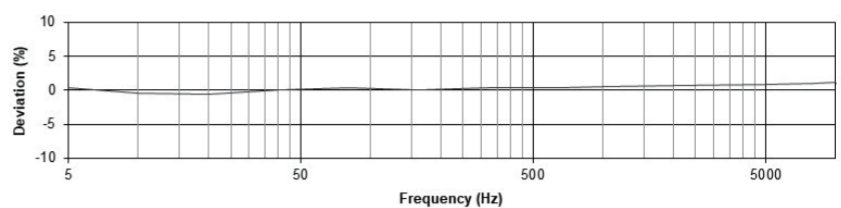


BXXBM6

**Fig\_2** Typical Temperature Response



**Fig\_3** Typical Frequency Response



## Specifications-BXXBM6

| MODEL NUMBER                            |        | UNIT           | B02BM6                 | B03BM6  | B05BM6  | B06BM6         |
|-----------------------------------------|--------|----------------|------------------------|---------|---------|----------------|
| PERFORMANCE                             |        |                |                        |         |         |                |
| Sensitivity <sup>1</sup>                |        | mV/g           | 10                     | 20      | 50      | 100            |
|                                         |        | mV/(m/s²)      | 1                      | 2       | 5       | 10             |
| Measurement Range                       |        | g              | ±500                   | ±250    | ±100    | ±50            |
| Broadband Resolution <sup>2</sup>       |        | g rms          | 0.001                  | 0.0005  | 0.0002  | 0.0001         |
| Non-Linearity <sup>3</sup>              |        | %              | 1                      |         |         |                |
| Frequency Range                         | ± 5%   | Hz             | 1-10k                  | 1-10k   | 1-12k   | 1-10k          |
|                                         | ±10%   |                | 0.5-11k                | 0.5-11k | 0.5-14k | 0.5-12k        |
| Resonance Frequency <sup>2</sup>        |        | Hz             | ≥55k                   | ≥38k    | ≥40k    | ≥38k           |
| Discharge Time Constant <sup>2</sup>    |        | s              | ≤1                     |         |         |                |
| Transverse Sensitivity                  |        | %              | ≤5                     |         |         |                |
| ELECTRICAL                              |        |                |                        |         |         |                |
| Excitation Voltage                      |        | VDC            | 20-30                  |         |         |                |
| Constant Current Excitation             |        | mA             | 2-20                   |         |         |                |
| Output Impedance                        |        | Ω              | ≤100                   |         |         |                |
| Output Bias Voltage                     |        | V              | 8-12                   |         |         |                |
| Electrical Isolation                    |        | Ω              | -                      |         |         |                |
| Spectral Noise <sup>2</sup>             | 10Hz   | μg/√Hz         | 150                    | 75      | 30      | 15             |
|                                         | 100Hz  |                | 40                     | 20      | 8       | 4              |
|                                         | 1000Hz |                | 20                     | 10      | 4       | 2              |
| ENVIRONMENTAL                           |        |                |                        |         |         |                |
| Sinusoidal Vibration Limit <sup>4</sup> |        | g rms          | 2000                   | 1200    | 800     | 400            |
| Shock Limit <sup>4</sup>                |        | g pk           | 5000                   | 3000    | 2000    | 1000           |
| Temperature Range                       |        | °C             | -50-120                |         |         |                |
|                                         |        | °F             | -58-248                |         |         |                |
| Temperature Response <sup>2</sup>       |        | -              | See typical curve      |         |         |                |
| PHYSICAL                                |        |                |                        |         |         |                |
| Sealing                                 |        | -              | Laser welding IP68     |         |         |                |
| Sensing Element                         |        | -              | Piezoelectric ceramics |         |         |                |
| Housing Material                        |        | -              | Titanium Alloy         |         |         |                |
| Size                                    | mm     | 13.6×6.6×7.7   |                        |         |         | 14.4×6.6×8.5   |
|                                         | in     | 0.54×0.26×0.30 |                        |         |         | 0.57×0.26×0.33 |
| Electrical Connector                    |        | -              | M5 Side (Opt. 10-32)   |         |         |                |
| Mounting Thread                         |        | -              | Adhesive               |         |         |                |
| Weight <sup>2</sup>                     | g      | 2              | 2                      | 2.1     | 2.7     |                |
|                                         | oz     | 0.070          | 0.070                  | 0.074   | 0.095   |                |
| TEDS Optional <sup>5</sup>              |        | -              | Yes                    |         |         |                |

## Additional Information

### Note:

1. @ 160Hz, 24VDC, 4mA conditions
2. Typical values
3. JBT 6822-2018 7.12.1 Vibration Testing Method
4. References the mechanical structure of the sensor not being damaged in a non powered state, rather than in a working state
5. Some products may have changes in size after adding TEDS

### BXXBM6

Supplied Accessories:

- Product Verification Report

### OPTIONALVERSIONS

- A: 10-32 Output Connector
- T: TEDS

### COMPLIANCE WITH STANDARDS



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