

IEPE Three-Axis High-Temperature Accelerometer

DETAILS

The BXXY91 series three-axis accelerometer employs a piezoelectric ceramic shear structure and features a wide-band frequency response, low transverse sensitivity, and low thermal transient response. It incorporates an internal high-temperature, low-impedance circuit, offering low noise and excellent sensitivity to temperature variations, with a maximum operating temperature of +160°C. The housing is made of a light-weight titanium alloy and is laser-welded. Each of the three axes is equipped with calibration holes for easy installation and calibration, and comes standard with an insulated mounting assembly.

FEATURES

- Built-in high temperature circuit
- One-point multi-axial measurement
- Shear structure, stable and reliable
- Insulated mounting base as standard

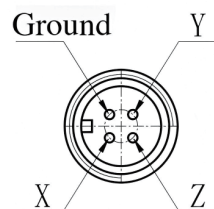
TYPICAL APPLICATIONS

- Environmental testing
- Automotive NVH testing
- Modal structure and analysis
- General vibration monitoring
- General triaxial vibration measurement

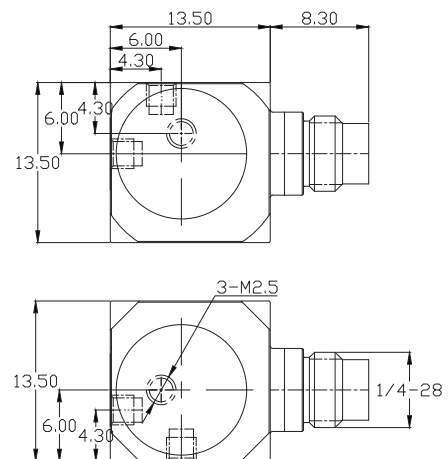
Fig_1 Picture of BXXY94



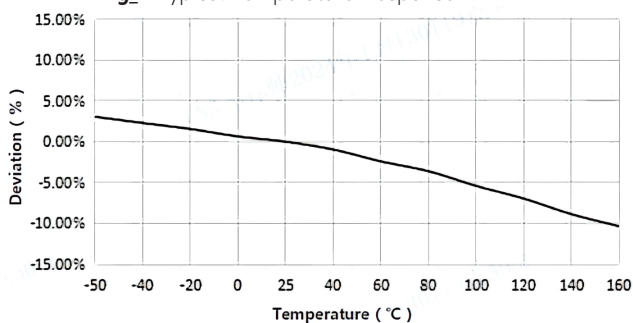
Fig_2 Product wiring definition diagram



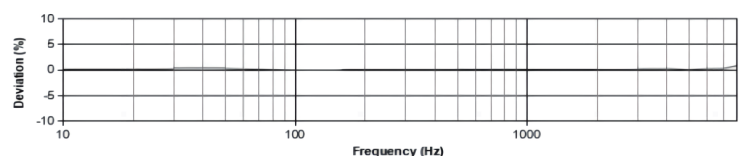
Fig_3 Dimensions of BXXY94



Fig_4 Typical Temperature Response



Fig_5 Typical Frequency Response



Specifications-BXXY94

MODEL NUMBER		UNIT	B01Y94	B02Y94	B05Y94	B06Y94
PERFORMANCE						
Sensitivity ¹		mV/g	5(±10%)	10(±10%)	50	100
		mV/(m/s²)	0.5	1	5	10
Measurement Range		g	±1000	±500	±100	±50
Broadband Resolution ²		g rms	0.002	0.001	0.0002	0.0001
Non-Linearity ³		%	1			
Frequency Range	± 5%	Hz	1-8k	1-8k	1-8k	1-8k
	±10%		0.5-10k	0.5-10k	0.5-10k	0.5-10k
Resonance Frequency ²		Hz	≥70k	≥70k	≥45k	≥38k
Discharge Time Constant ²		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	8-14			
Electrical Isolation		Ω	-			
Spectral Noise ²	10Hz	μg/√Hz	120	60	12	6
	100Hz		48	24	4.8	2.4
	1000Hz		32	16	3.2	1.6
ENVIRONMENTAL						
Sinusoidal Vibration Limit ⁴		g rms	2500	2000	800	400
Shock Limit ⁴		g pk	8000	5000	2000	1000
Temperature Range		°C	-50~160			
		°F	-58~320			
Temperature Response ²		-	See typical curve			
PHYSICAL						
Sealing		-	Laser welding IP68			
Sensing Element		-	Piezoelectric ceramics			
Housing Material		-	Titanium Alloy			
Size		mm	13.50 Cube			
		in	0.531 Cube			
Electrical Connector		-	1/4-28 4-pin			
Mounting Thread		-	M2.5*2.0/Adhesive			
Weight ²		g	7.3	7	8.2	9.5
		oz	0.258	0.247	0.289	0.194
Mounting Torque		-	0.4N·m			
Recommended Accessories	Cable	-	K06BB72			
	Mounting Base	-	H02C09			
TEDS Model Number ⁵		-	No			

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

BXXY94

Supplied Accessories:

- Product Verification Report
- M2.5-M5 Adapter Screw, M2.5*5 Mounting Screw, Isolated Mounting Base H02C09

COMPLIANCE WITH STANDARDS

