BXXA51

IEPE High-Sensitivity Accelerometer

DETAILS

The BXXA51 IEPE accelerometer employs a piezoelectric ceramic shear structure, offering a wide-band frequency response. Its high-quality piezoelectric ceramic ensures long-term stability for years of precise measurement. Featuring an integrated low-impedance circuit, it delivers low noise, excellent low-frequency response, compact size, and high sensitivity. A dual-layer shielding structure effectively isolates interference, while the housing utilizes a lower-density titanium alloy material with laser welding for superior airtightness.

FEATURES

- Low-noise integrated circuit
- High-sensitivity design

TYPICAL APPLICATIONS

- Structural testing for bridges, buildings, etc.
- Requires low-noise measurement testing

Fig_1 Dimensions of BXXA51

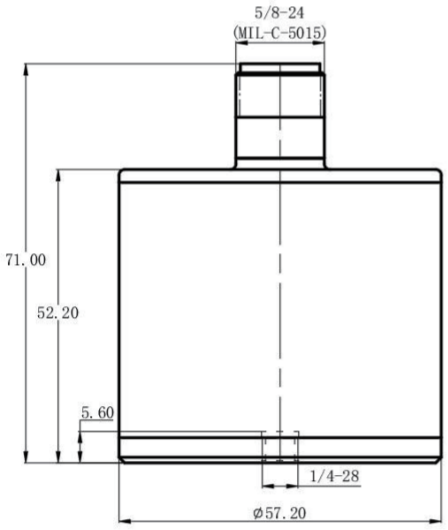


Fig_2 Typical Temperature Response

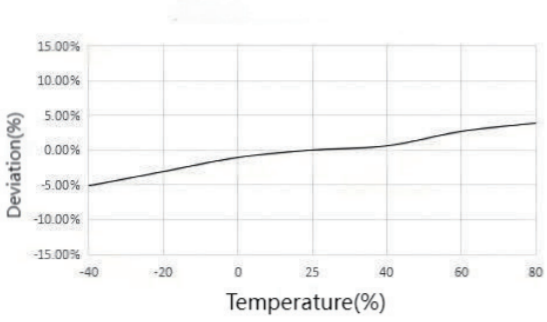
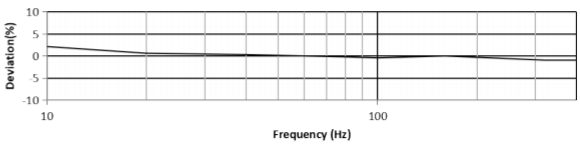


Fig_3 Typical Frequency Response



Specifications-BXXA51

MODEL NUMBER		UNIT	B11A51	B12A51
PERFORMANCE				
Sensitivity [1]		mV/g	5000	10000
		mV/(m/s²)	500	1000
Measurement Range		g	±1	±0.5
Broadband Resolution [2]		g rms	0.000001	0.000001
Non-Linearity [3]		%	1	
Frequency Range	± 5%	Hz	0.1-400	0.1-400
	±10%		0.05-500	0.05-500
Resonance Frequency [2]		Hz	≥1.2k	≥1.2k
Discharge Time Constant [2]		s	≥10	
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	≥1×10⁸	
Spectral Noise [2]	10Hz	μg/√Hz	0.05	0.06
	100Hz		0.01	0.01
	1000Hz		0.003	0.004
ENVIRONMENTAL				
Sinusoidal Vibration Limit [4]		g rms	2	20
Shock Limit [4]		g pk	10	100
Temperature Range		℃	-40~85	
		℉	-40~185	
Temperature Response [2]		-	See typical curve	
PHYSICAL				
Sealing		-	Laser welding IP68	
Sensing Element		-	Piezoelectric ceramics	
Housing Material		-	Stainless steel	
Size		mm	φ57.20×71	
		in	φ2.252×2.795	
Electrical Connector		-	MIL-C-5015 2pin	
Mounting Thread		-	1/4-28	
Weight [2]		g	1100	1100
		oz	38.801	38.801
TEDS Optional [5]		-	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

BXXA51

Supplied Accessories:

- Product Verification Report
- Install Screws

OPTIONALVERSIONS

-T: TEDS

COMPLIANCE WITH STANDARDS

LNS Intelligent Technology Co., Ltd

N0.3 Incubator Building
Qilu High-Tech District, Qihe,Dezhou
Shandong Province, China 251100
+86-534-2150417

International:
9620 NE Tanasbourne Dr Ste 300
Hillsboro, OR, USA 97124
+1-503-208-5512
info@lnsdynamics.com