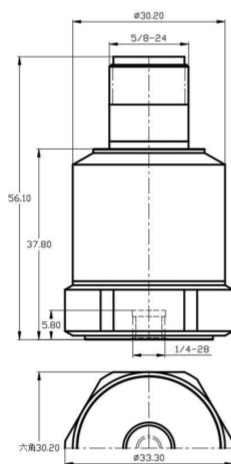


IEPE High-Sensitivity Accelerometer

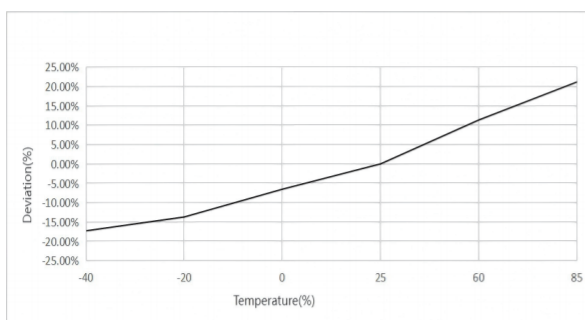
DETAILS

The B11A53 B12A53 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.

Fig_1 Dimensions of BXXA53



Fig_2 Typical Temperature Response



FEATURES

- Low-noise integrated circuit
- High-sensitivity design

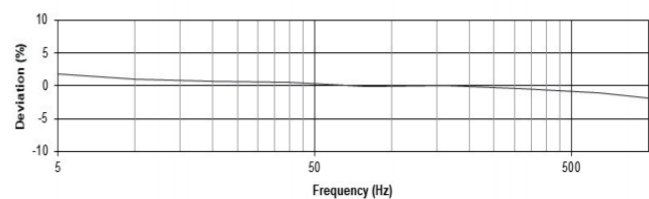
TYPICAL APPLICATIONS

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



BXXA53

Fig_3 Typical Frequency Response



Specifications-BXXA53

MODEL NUMBER		UNIT	B11A53	B12A53
PERFORMANCE				
Sensitivity ¹		mV/g	5000	10000
		mV/(m/s²)	500	1000
Measurement Range		g	±1	±0.5
Broadband Resolution ²		g rms	0.000002	0.000003
Non-Linearity ³		%	1	
Frequency Range	± 5%	Hz	0.15-1k	0.15-1k
	±10%		0.1-2k	0.1-2k
Resonance Frequency ²		Hz	≥7k	≥7k
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	≥1×10 ⁸	
Spectral Noise ²	10Hz	μg/√Hz	0.7	0.73
	100Hz		0.5	0.13
	1000Hz		0.08	0.1
ENVIRONMENTAL				
Sinusoidal Vibration Limit ⁴		g rms	80	80
Shock Limit ⁴		g pk	200	200
Temperature Range		°C	-40~85	
		°F	-40~185	
Temperature Response ²		-	See typical curve	
PHYSICAL				
Sealing		-	Laser welding IP68	
Sensing Element		-	Piezoelectric ceramics	
Housing Material		-	Stainless steel	
Size	mm	HEX 30.2×56.1		
	in	HEX 1.189×2.209		
Electrical Connector		-	MIL-C-5015 2pin	
Mounting Thread		-	1/4-28	
Weight ²	g	227	227	
	oz	8.007	8.007	
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

BXXA53

Supplied Accessories:

- Product Verification Report
- Install Screws

OPTIONALVERSIONS

-T: TEDS

COMPLIANCE WITH STANDARDS



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