

IEPE Triaxial Double-Shielded Accelerometer

DETAILS

B05Y53 Three-Axis Watertight Accelerometer employs a piezoelectric ceramic shear structure, delivering wide-band frequency response. Premium piezoelectric ceramics ensure long-term stability for precise measurement. Integrated low-impedance circuitry and dual-layer shielding guarantee low noise, excellent sensitivity, and favorable temperature response characteristics. The integrated vulcanized cable withstands 3MPa pressure both longitudinally and transversely, offering moisture resistance and corrosion protection. The housing utilizes a lower-density titanium alloy material, laser-welded for strength.

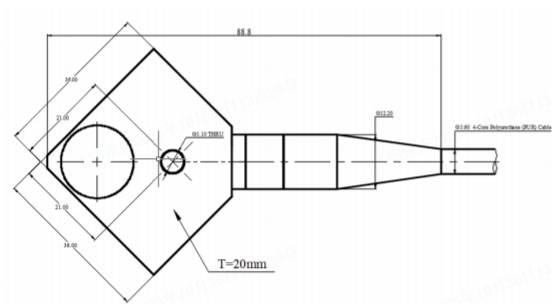
FEATURES

- Micro-miniature built-in integrated circuit
- Dual-layer shielding structure
- Shear structure, broadband response
- Waterproof pressure resistance exceeding 3MPa
- Integrated integral cable assembly

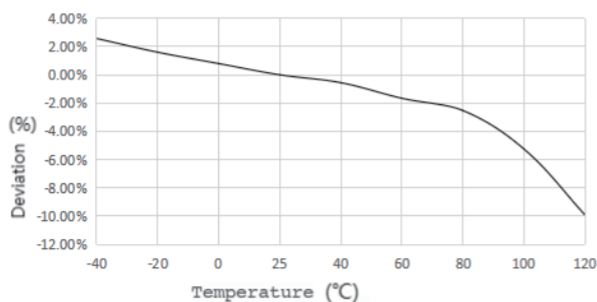
TYPICAL APPLICATIONS

- Underwater vibration testing
- Testing under humid conditions

Fig_1 Dimensions of BXXY53

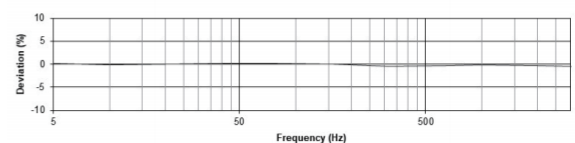


Fig_2 Typical Temperature Response



BXXY53

Fig_3 Typical Frequency Response



Specifications-BXXY53

MODEL NUMBER		UNIT	B05Y53	B06Y53
PERFORMANCE				
Sensitivity ¹		mV/g	50	100
		mV/(m/s²)	5	10
Measurement Range		g	±100	±50
Broadband Resolution ²		g rms	0.0002	0.0001
Non-Linearity ³		%	1	
Frequency Range	± 5%	Hz	1-3k	1-3k
	±10%		0.5-4k	0.5-4k
Resonance Frequency ²		Hz	≥18k	≥16k
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	8-12	
Electrical Isolation		Ω	≥1×10 ⁸	
Spectral Noise ²	10Hz	μg/√Hz	12	6
	100Hz		4.8	2.4
	1000Hz		3.2	1.6
ENVIRONMENTAL				
Sinusoidal Vibration Limit ⁴		g rms	800	400
Shock Limit ⁴		g pk	2000	1000
Temperature Range		°C	-40~80	
		°F	-40~176	
Temperature Response ²		-	See typical curve	
PHYSICAL				
Sealing		-	Laser welding IP68	
Sensing Element		-	Piezoelectric ceramics	
Housing Material		-	Titanium Alloy	
Size	mm	36×36×20		
	in	1.417×1.417×0.787		
Electrical Connector		-	Waterproof integral cable	
Mounting Thread		-	φ5.1 Through Hole/M5	
Weight ²	g	90	90	
	oz	3.175	3.175	
TEDS Optional 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

BXXY53

Supplied Accessories:

- Product Verification Report
- Install Screws

COMPLIANCE WITH STANDARDS



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