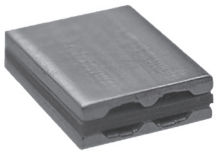
Model 12m9
Piezoelectic accelerometer

Features

- For SMT Installation
- Light Weight (85 mg)
- High Output Efficiency
- Low Cost/OEM Applications
- Single connector, flexible cable



Description

The Endevco model 12M9 Picochip is a high performance piezoelectric accelerometer packaged for surface mounting. The unit is engineered for integration into standard hybrid electronics packages allowing the user to create miniaturized shock and vibration measurement systems.

The model 12M9 features Endevco's Piezite type P-8 bimorph sensing element, operating in the bender mode, which provides low base strain sensitivity, low pyroelectric output, and extremely high charge output versus size. Contact to the sensing element is made through the top and bottom metalized surfaces. The unit is designed to be mounted with conductive adhesives or solder on the bottom surface and a solder or wire bond connection to the top surface. Since the model 12M9 is a high impedance piezoelectric device, extreme care must be exercised in shielding it from stray electromagnetic noise.

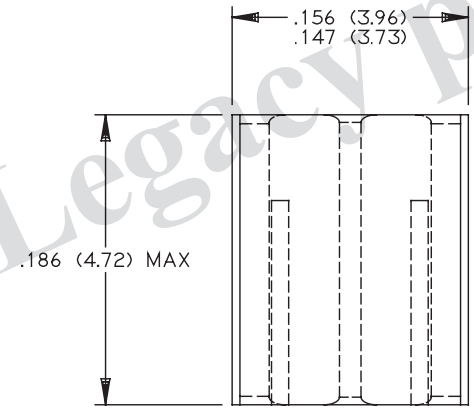
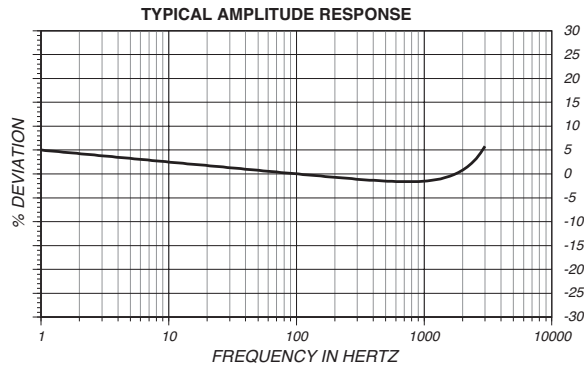
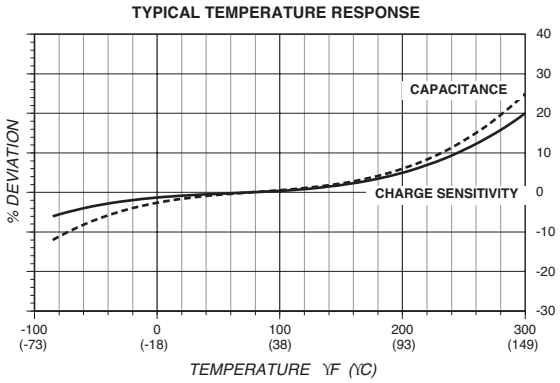


FIGURE 1





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Piezoelectric accelerometer

Specifications

The following performance specifications conform to ISA-RP-37.2 (1964) and are typical values, referenced at +75˚F (+24˚C) and 100 Hz, unless otherwise noted. Calibration data, traceable to National Institute of Standards and Technology (NIST), is supplied.

Dynamic characteristics	Units	
Charge sensitivity	pC/g	1.5
Minimum	pC/g	1.2
Maximum	pC/g	1.8
Frequency response [1]		See typical amplitude response
Resonance frequency		
Minimum	kHz	9.0
Maximum	kHz	13.0
Temperature response		See typical curve
Transverse sensitivity	%	≤ 5

Electrical characteristics		
Output polarity	Acceleration produces output on the designated contacts as shown in figure 1	
Resistance	GΩ	≥ 10 @ 50 Vdc
At +302˚F	MΩ	≥ 100
Capacitance	pF	550@1000 Hz

Physical characteristics		
Dimensions		See outline drawing
Weight	gm (oz)	0.085 (0.0030)
Case material		Alloy 42
Case finish		Gold of nickel plate
Mounting		Conductive adhesive or solder mount

Calibration	
Supplied:	
Charge sensitivity	pC/g
Capacitance	pF

Notes:

1. Frequency response calibration on x and y may be limited by the mounting fixture of the calibration system. Actual frequency responses of axis x and y are similar to axis z.
2. Case isolation available as model 65M1-XXX. Must be specified at time of order.
3. +22 Vdc minimum must be available to the accelerometer to ensure full-scale operation at the temperature extremes.