

Model 12M1A Piezoelectric accelerometer - OEM

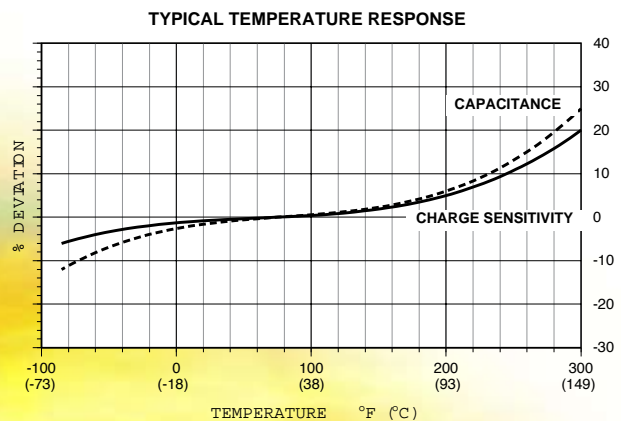
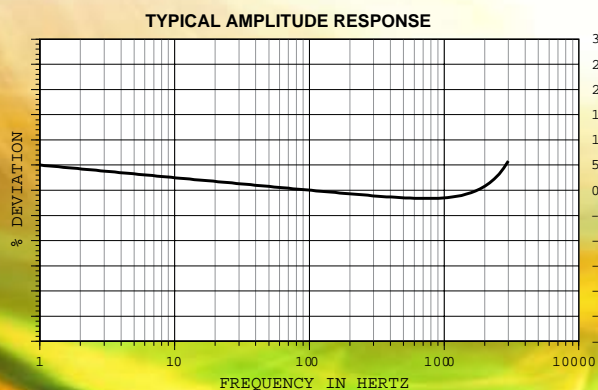
Features

- Low cost/OEM applications
- High output efficiency
- Light weight (85 mg)
- For SMT installation

Description

The Endevco Model 12M1A PICOCHIP™ is a high performance piezoelectric accelerometer packaged as a surface mount chip component. The unit is engineered for integration in standard hybrid or SMT electronics packages along with custom designed signal conditioning circuits, allowing the user to create miniaturized shock and vibration measurement systems in one completely integrated package.

The Model 12M1A 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 two thick film gold metalized mounting pads on the bottom surface of the alumina case. The unit is designed to be mounted with conductive adhesives or solder. Since the Model 12M1A is a high impedance piezoelectric device, extreme care must be exercised in shielding it from stray electromagnetic noise.



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Endevco

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		1.9
MINIMUM	pC/g		1.4
MAXIMUM	pC/g		2.4
FREQUENCY RESPONSE			See Typical Amplitude Response
RESONANCE FREQUENCY	kHz		9
AMPLITUDE RESPONSE [1]	Hz		1 to 2000
			±5%
TEMPERATURE RESPONSE			See Typical Curve
TRANSVERSE SENSITIVITY	%		≤ 5
ELECTRICAL CHARACTERISTICS			
OUTPUT POLARITY			Acceleration produces positive output on the (+) designated contact as shown in Figure 1
CAPACITANCE	pF		550 @ 1000 Hz
ENVIRONMENTAL CHARACTERISTICS			
TEMPERATURE RANGE			-85°F to +302°F (-65°C to + 150°C)
PROCESSING TEMP (re-flow solder assy)			+446°F to +(230°C), 30 seconds maximum
SHOCK LIMIT	g pk		1000
PHYSICAL CHARACTERISTICS			
DIMENSIONS			See Outline Drawing
WEIGHT	gm (oz)		0.085 (0.0030)
BASE			Alumina with selective gold metalization
COVER			Alloy 42 gold plated.
MOUNTING			Twin electrical contact for conductive epoxy or solder mounting

Notes:

1. Low-end system response is a function of the associated electronics.

Continued product improvement necessitates that Endevco reserve the right to modify these specifications without notice. Endevco maintains a program of constant surveillance over all products to ensure a high level of reliability. This program includes attention to reliability factors during product design, the support of stringent Quality Control requirements, and compulsory corrective action procedures. These measures, together with conservative specifications have made the name Endevco synonymous with reliability.

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