

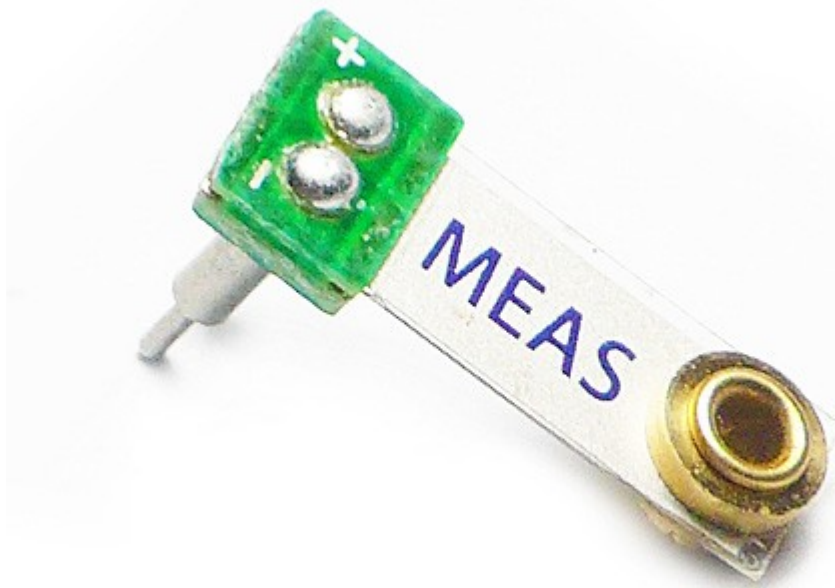
## SEED TECHNOLOGY INC (SEEEDUINO)

### Piezo Sensor - MiniSense 100

#### Model: SEN127A3M

#### **Introduction**

The MiniSense 100 is a low cost cantilever-type vibration sensor loaded by a mass to offer high sensitivity at low frequencies. Pins are designed for easy installation and are solderable. Horizontal and vertical mounting options are offered. The active sensor area is shielded for improved RFI/EMI rejection. Rugged, flexible PVDF sensing element withstands high shock overload. Sensor has excellent linearity and dynamic range, and may be used for detecting either continuous vibration or impacts. The mass may be modified to obtain alternative frequency response and sensitivity selection (consult factory). The MiniSense 100 acts as a cantilever-beam accelerometer. When the beam is mounted horizontally, acceleration in the vertical plane creates bending in the beam, due to the inertia of the mass at the tip of the beam. Strain in the beam creates a piezoelectric response, which may be detected as a charge or voltage output across the electrodes of the sensor. The sensor may be used to detect either continuous or impulsive vibration or impacts. For excitation frequencies below the resonant frequency of the sensor, the device produces a linear output governed by the "baseline" sensitivity. The sensitivity at resonance is significantly higher. Impacts containing high frequency components will excite the resonance frequency, as shown in the plot above (response of MiniSense 100 to a single half-sine impulse at 100 Hz, of amplitude 0.9 g). The ability of the sensor to detect low frequency motion is strongly influenced by the external electrical circuit.



#### **Features**

- Low cost
- Cantilever-type vibration sensor
- High sensitivity at low frequencies
- Active sensor area is shielded for improved RFI/EMI rejection
- Excellent linearity and dynamic range
- Rugged, flexible PVDF sensing element withstands high shock overload

## Application Ideas

- Detect either continuous
- Impulsive vibration or impacts

## Cautions

The warnings and wrong operations possible cause dangerous.

## Schematic

It is the schematic, the circuit about Eagle resource like .pdf should linked here in order to avoid memory exhausted.

## Specification

### Typical Properties (at 25°C)

Parameter	Value	Units
Voltage Sensitivity (open-circuit, baseline)	1.1	V/g
Charge Sensitivity (baseline)	260	pC/g
Resonance Frequency	75	Hz
Voltage Sensitivity (open-circuit, at resonance)	6	V/g
Upper Limiting Frequency (+3 dB)	42	Hz
Linearity	+/-1	%
Capacitance	244	pF
Dissipation Factor	0.018	(none)
Inertial Mass	0.3	gram

### Environmental Specifications

Parameter	Value	Units
Storage Temperature	-40 to +80 deg C	
Operating Temperature	-20 to +60 deg C	
Weight	Minisense 100H	0.5 gram
	Minisense 100V	0.6 gram

## Pin definition and Rating

## Mechanic Dimensions

## Usage

## Hardware Installation

## Programming

Includes important code snippet. Demo code like :

```
Demo code
{
}
}
```

## Example

The projects and application examples.

## Bill of Materials (BOM) /parts list

All the components used to produce the product.

## FAQ

Here is the [Sensors FAQ](#), users can find questions and answers here for sensors.

## Support

If you have questions or other better design ideas, you can go to our [forum](#) or [wish](#) to discuss.

## Version Tracker

Revision	Descriptions	Release Date
v1.0	Initial public release	Jul 07, 2009

## Bug Tracker

Bug Tracker is the place you can publish any bugs you think you might have found during use. Please write down what you have to say, your answers will help us improve our products.

## Additional Idea

The Additional Idea is the place to write your project ideas about this product, or other usages you've found. Or you can write them on Projects page.

## Resource

- [Piezo Film Sensors Technical Manua](#)
- [MiniSense 100 Vibration Sensor Manual](#)

## See Also

Other related products and resources.

## Licensing

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