

# Model 834M1 Accelerometer

Triaxial Piezoelectric  
Accelerometer  
<22 $\mu$ A Current Consumption  
Wide Bandwidth to 6kHz  
Circuit Board Mountable



**The Model 834M1** is a low cost, board mountable triaxial accelerometer designed for high amplitude embedded shock applications. The accelerometer features a maximum current consumption of 22 micro-amps and incorporates full power and signal conditioning. The model 834M1 is available in  $\pm 2000g$  to  $\pm 6000g$  ranges and provides a flat frequency response up to greater than 6kHz. The standard model 834 offers the same envelope with a lower maximum current consumption of 4 micro-amps.

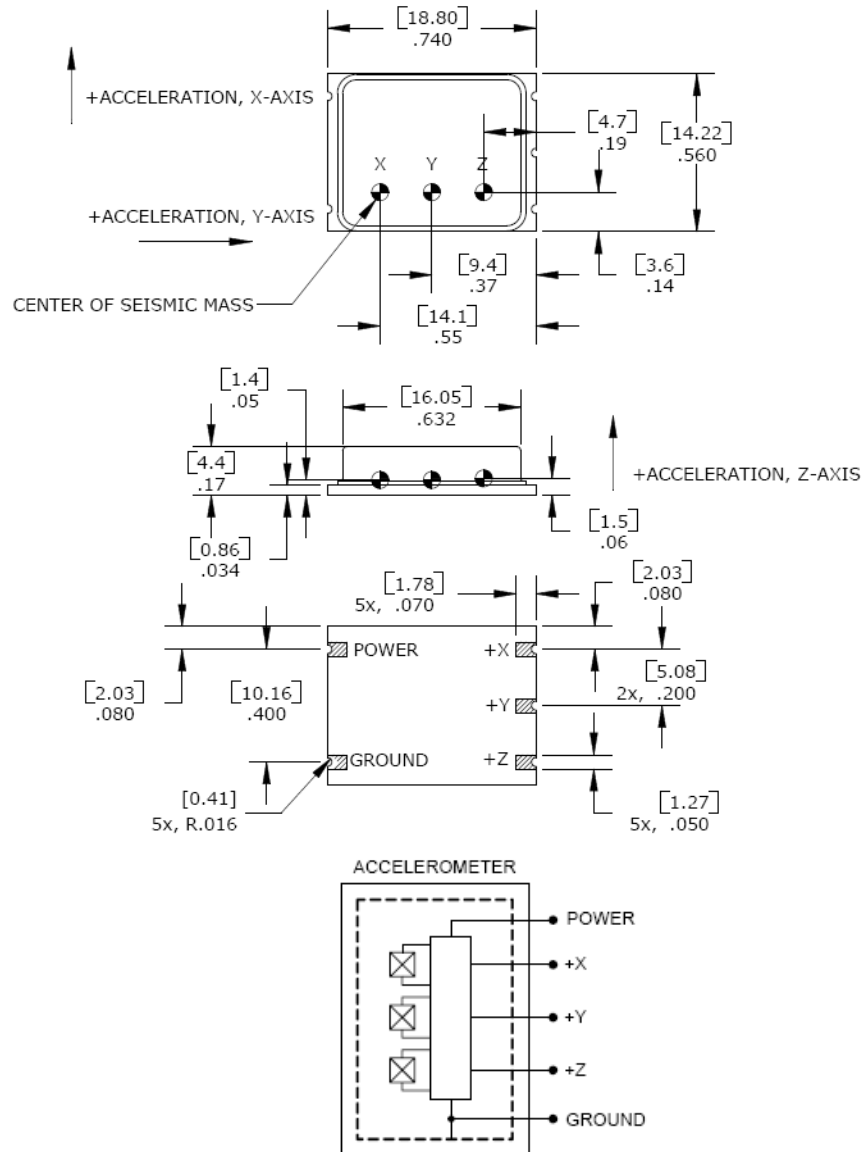
## FEATURES

- $\pm 2000g$  to  $\pm 6000g$  Dynamic Range
- Low Cost Triaxial
- Hermetically Sealed
- Piezo-ceramic Crystals
- $-40^\circ$  to  $+125^\circ\text{C}$  Operating Range
- Single Axis Configurations Available

## APPLICATIONS

- Asset Monitoring
- Impact Testing
- System Wake-Up Switch
- Embedded Applications
- Instrumentation

## dimensions



# Model 834M1 Accelerometer

## performance specifications

All values are typical at +24°C, 100Hz and 3.3Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice. Standard product parameters are described in PSC-1001 for Embedded AC Accelerometers.

### Parameters

|  |                                   |                 | Notes     |
|--|-----------------------------------|-----------------|-----------|
| <b>DYNAMIC</b>                         |                                   |                 |           |
| Range (g)                              | ±2000                             | ±6000           |           |
| Sensitivity (mV/g)                     | 0.62                              | 0.20            | ±30%      |
| Frequency Response (Hz)                | 2-6000                            | 2-6000          | ±2dB      |
| Natural Frequency (Hz)                 | >30000                            | >30000          |           |
| Non-Linearity (%FSO)                   | ±2                                | ±2              |           |
| Transverse Sensitivity (%)             | <8                                | <8              |           |
| Shock Limit (g)                        | 10000                             | 10000           |           |
| <b>ELECTRICAL</b>                      |                                   |                 |           |
| Bias Voltage (Vdc)                     | Exc Voltage / 2                   | Exc Voltage / 2 |           |
| Total Supply Current (µA) <sup>1</sup> | <22                               | <22             |           |
| Excitation Voltage (Vdc)               | 3.3 to 5.5                        | 3.3 to 5.5      |           |
| Output Impedance (Ω)                   | <100                              | <100            |           |
| Insulation Resistance (MΩ)             | >100                              | >100            | @100Vdc   |
| Broadband Noise (µV)                   | 60                                | 30              | 2Hz-10kHz |
| Spectral Noise (mg/√Hz)                | 4.5                               | 5.0             | @ 10Hz    |
| Spectral Noise (mg/√Hz)                | 0.65                              | 1.0             | @ 100Hz   |
| Spectral Noise (mg/√Hz)                | 0.25                              | 0.50            | @ 1000Hz  |
| Shielding                              | 100%                              |                 |           |
| Ground Isolation                       | Isolated from Mounting Surface    |                 |           |
| <b>ENVIRONMENTAL</b>                   |                                   |                 |           |
| Temperature Response (%)               | -20/+30 from -40°C to +125°C      |                 |           |
| Operating Temperature (°C)             | -40 to +125                       |                 |           |
| Storage Temperature (°C)               | -40 to +125                       |                 |           |
| <b>PHYSICAL</b>                        |                                   |                 |           |
| Sensing Element                        | Ceramic (shear mode)              |                 |           |
| Case Material                          | Ceramic Base, Nickel Silver Cover |                 |           |
| Weight (grams)                         | 2.6                               |                 |           |

<sup>1</sup> A lower current consumption of 4 micro-amps is available on model 834.

<sup>2</sup> The model 834M1 is not to be reflow soldered at high temperature, manual soldering is recommended. See application note.

<sup>3</sup> The model 834M1 can be operated with 2.8V excitation but the full-scale range will be limited.

**Calibration supplied:** CS-SENS-0100 NIST Traceable Amplitude Calibration at 100Hz

**Wiring color code:** See schematic

## ordering info

PART NUMBERING Model Number+Range

834M1-GGGG

|  
| \_\_\_\_\_ Range (2000 is 2000g)

Example: 834M1-2000  
Model 834M1, 2000g

## 联系方式



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