



# dimensions



# **MODEL 3255A ACCELEROMETER**

### **SPECIFICATIONS**

- PC Board Mountable Accelerometer
- Amplified Output
- Temperature Compensated
- High Over-Range Protection

**The Model 3255A** is a signal conditioned board mountable MEMS accelerometer available in  $\pm 25$ g to  $\pm 500$ g ranges. The package can be mounted in one of two orientations, allowing the measurement axis to be either parallel or perpendicular to the mounting surface without the use of costly brackets. The accelerometer incorporates integral temperature compensation and offers a flat frequency response from DC to 1500Hz.

## FEATURES

- ±25g to ±500g Ranges
- Three Axis Mounting Options
- Surface Mount Package
- DC Response, Gas Damping
- Hermetically Sealed
- 5Vdc Excitation

## APPLICATIONS

- Impact & Shock Testing
- Vibration & Shock Monitoring
- Embedded Applications
- Transportation Measurements



### PERFORMANCE SPECIFICATIONS

All values are typical at +24°C, 80Hz and 5Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice.

Parameters <b>DYNAMIC</b> Range (g) Sensitivity (mV/g) ±10% Frequency Response (Hz) Natural Frequency (Hz) Non-Linearity (%FSO) Transverse Sensitivity (%) Damping Ratio Shock Limit (g)	±25 80.0 0-800 4000 ±0.5 <3 0.7 5000	±50 40.0 0-1000 4000 ±0.5 <3 0.7 5000	±100 20.0 0-1200 6000 ±0.5 <3 0.7 5000	±250 8.0 0-1500 8000 ±0.5 <3 0.6 5000	±500 4.0 0-1500 10000 ±0.5 <3 0.5 5000	Notes @5Vdc Excitation <sup>1</sup> ±5% <1 Typical Typical
<b>ELECTRICAL</b> Zero Acceleration Output (V) Excitation Voltage (Vdc) <sup>1</sup> Excitation Current (mA) Bias Voltage (Vdc) Full Scale Output Voltage (Vdc) Output Impedance ( $\Omega$ ) Insulation Resistance (M $\Omega$ ) Residual Noise ( $\mu$ V RMS) Ground Isolation	2.5±0.10 2.7 to 5.5 <5 2.5 ±2.0 <100 >100 800 Isolated from	2.5±0.10 2.7 to 5.5 <5 2.5 ±2.0 <100 >100 400 Mounting Surfa	2.5±0.10 2.7 to 5.5 <5 2.5 ±2.0 <100 >100 400 ce	2.5±0.10 2.7 to 5.5 <5 2.5 ±2.0 <100 >100 400	2.5±0.10 2.7 to 5.5 <5 2.5 ±2.0 <100 >100 400	Single-Ended @100Vdc Passband
ENVIRONMENTAL Thermal Zero Shift (%FSO/°C) Thermal Sensitivity Shift (%/°C) Operating Temperature (°C) Compensated Temperature (°C) Storage Temperature (°C) PHYSICAL Case Material Weight (grams) Mounting	±0.018 ±0.021 -54 to +121 -20 to +85 -54 to +121 Ceramic 1.5 Solder	±0.018 ±0.021	±0.018 ±0.021	±0.018 ±0.021	±0.018 ±0.021	

<sup>1</sup>Output is ratiometric with excitation voltage.

<sup>2</sup>Do not electrically connect undesignated pads in sensor application. Except pad 5 may be tied to pad 4 without affecting performance. <sup>3</sup>Maximum ratings without damage:

- Excitation voltage: +5.5Vdc

- ESD protection: 4kV

- Solder reflow temperature: +260°C (10 seconds)

<sup>4</sup>Adhesive underfill suggested for high-g applications.

#### Calibration supplied: CS-SENS-0100 NIST Traceable Amplitude Calibration at 80Hz

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### **ORDERING INFO**

PART NUMBERING Model Number+Range

3255A-GGG

\_\_\_\_Range (050 is 50 g)

Example: 3255A-050 Model 3255A, 50g

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