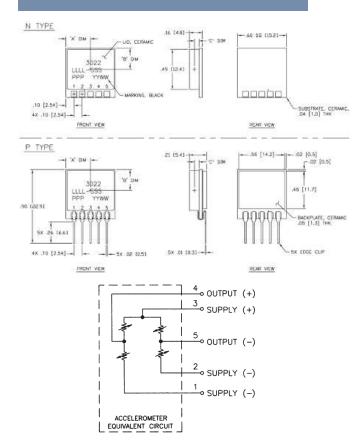




## **DIMENSIONS**



# **MODEL 3022 ACCELEROMETER**

#### **SPECIFICATIONS**

- Piezoresistive MEMS
- DC Response
- Circuit Board Mountable
- Low Cost

The Model 3022 is a silicon MEMS accelerometer in a Wheatstone bridge configuration. The accelerometer is packaged on a ceramic substrate with an epoxy sealed ceramic cover and is designed for adhesive mounting. The accelerometer is offered in ranges from ±2g to ±200g range and provides a flat frequency response to minimum 2000Hz. The silicon MEMS sensor is gas damped and incorporates over-range stops for high-g shock protection.

For a similar accelerometer designed for bolt mounting, see the model 3028..

### **FEATURES**

- Adhesive Mounted
- ◆ ±0.5% Non-linearity
- Open Wheatstone Bridge
- DC Response
- Gas Damping
- Built-in Overrange Stops
- Low Power Consumption

#### **APPLICATIONS**

- Vibration & Shock Monitoring
- Motion Control
- Impact & Shock Testing
- Modal Analysis
- Embedded Applications
- Machinery

# 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 DYNAMIC Range (g) Sensitivity (mV/g) <sup>1</sup> Frequency Response (Hz) Natural Frequency (Hz) Non-Linearity (%FSO) Transverse Sensitivity (%) Damping Ratio Shock Limit (g)	±2 8.0-20.0 0-150 700 ±0.5 3 0.7 2000	±5 6.0-15.0 0-250 800 ±0.5 3 0.7 2000	±10 3.0-6.0 0-400 1000 ±0.5 3 0.7 5000	±20 1.5-3.0 0-600 1500 ±0.5 3 0.7 5000	±50 0.6-1.5 0-1000 4000 ±0.5 3 0.7 5000	±100 0.3-0.6 0-1500 6000 ±0.5 3 0.7 5000	±200 0.15-0.3 0-2000 8000 ±0.5 3 0.6 5000	Notes @5Vdc Exc. ±5%
ELECTRICAL Zero Acceleration Output (mV) Excitation Voltage (Vdc) Input Resistance $(\Omega)$ Output Resistance $(\Omega)$ Insulation Resistance $(M\Omega)$ Residual Noise $(\mu V RMS)$ Ground Isolation	±25 2 to 10 2500-6500 2500-6500 >100 10 Isolated from	±25 2 to 10 2500-6500 2500-6500 >100 10 Mounting Su	±25 2 to 10 2500-6500 2500-6500 >100 10	±25 2 to 10 2500-6500 2500-6500 >100	±25 2 to 10 2500-6500 2500-6500 >100	±25 2 to 10 2500-6500 2500-6500 >100	±25 2 to 10 2500-6500 2500-6500 >100	Differential @50Vdc Maximum
ENVIRONMENTAL Thermal Zero Shift (%FSO/°C) Thermal Sensitivity Shift (%/°C) Operating Temperature (°C) Compensated Temperature (°C) Storage Temperature (°C)	-0.09 -0.15 -40 to +125 Not Comper -40 to +125	-0.09 -0.15 nsated	-0.09 -0.15	-0.09 -0.15	-0.09 -0.15	-0.09 -0.15	-0.09 -0.15	Typical Typical See Note 2

**PHYSICAL** 

Case Material Ceramic Weight (grams) 3.1

Mounting Adhesive or solder

Optional accessories: 121 Three Channel DC Differential Amplifier

140 Auto-Zero Inline Amplifier

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<sup>&</sup>lt;sup>1</sup> Output is ratiometric to excitation voltage

<sup>&</sup>lt;sup>2</sup> Order model 3022-XXX-10254 for temperature compensation resistor values included in the calibration certificate.

## **ORDERING INFORMATION**

PART NUMBERING Model Number+Range+Electrical Connection

Example: 3022-010-P

Model 3022, 10g, Pins

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