

Model 3022 Accelerometer

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 $\pm 2g$ to $\pm 200g$ 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.

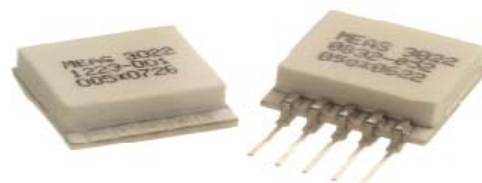
For a similar accelerometer designed for bolt mounting, see the model 3028.

FEATURES

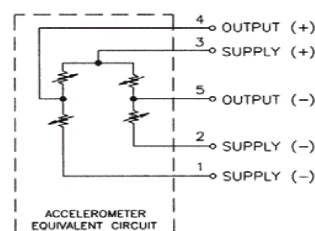
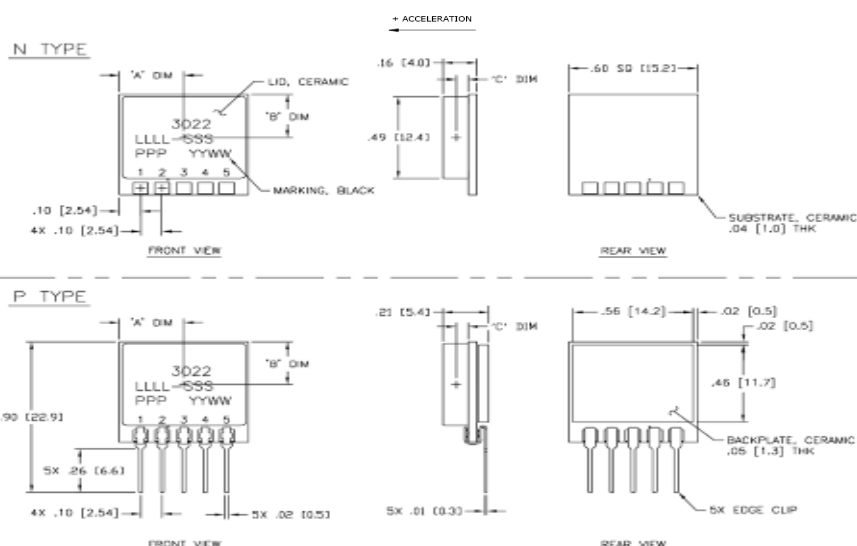
- Adhesive Mounted
- $\pm 0.5\%$ Non-linearity
- Open Wheatstone Bridge
- DC Response
- Gas Damping
- Built-in Overrange Stops
- Low Power Consumption

APPLICATIONS

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



dimensions



Model 3022 Accelerometer

performance specifications

All values are typical at +24°C, 100Hz and 5Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice. Standard product parameters are described in PSC-1002 for Embedded DC Accelerometers.

Parameters								Notes
DYNAMIC								
Range (g)	±2	±5	±10	±20	±50	±100	±200	@5Vdc Excitation ±5%
Sensitivity (mV/g) ¹	8.0-20.0	6.0-15.0	3.0-6.0	1.5-3.0	0.6-1.5	0.3-0.6	0.15-0.3	
Frequency Response (Hz)	0-150	0-250	0-400	0-600	0-1000	0-1500	0-2000	
Natural Frequency (Hz)	700	800	1000	1500	4000	6000	8000	
Non-Linearity (%FSO)	±0.5	±0.5	±0.5	±0.5	±0.5	±0.5	±0.5	
Transverse Sensitivity (%)	3	3	3	3	3	3	3	
Damping Ratio	0.7	0.7	0.7	0.7	0.7	0.7	0.6	
Shock Limit (g)	5000	5000	5000	5000	5000	5000	5000	
ELECTRICAL								
Zero Acceleration Output (mV)	±25	±25	±25	±25	±25	±25	±25	
Excitation Voltage (Vdc)	2 to 10	2 to 10	2 to 10	2 to 10	2 to 10	2 to 10	2 to 10	
Input Resistance (Ω)	2500- 6500	2500- 6500	2500- 6500	2500- 6500	2500- 6500	2500- 6500	2500- 6500	
Output Resistance (Ω)	2500- 6500	2500- 6500	2500- 6500	2500- 6500	2500- 6500	2500- 6500	2500- 6500	
Insulation Resistance (MΩ)	>100	>100	>100	>100	>100	>100	>100	@50Vdc Maximum
Residual Noise (μV RMS)	10	10	10	10	10	10	10	
Ground Isolation	Isolated from Mounting Surface							
ENVIRONMENTAL								
Thermal Zero Shift (%FSO/°C)	-0.09	-0.09	-0.09	-0.09	-0.09	-0.09	-0.09	Typical
Thermal Sensitivity Shift (%/°C)	-0.15	-0.15	-0.15	-0.15	-0.15	-0.15	-0.15	Typical
Operating Temperature (°C)	-40 to +125							
Compensated Temperature (°C)	Not Compensated							See Note 2
Storage Temperature (°C)	-40 to +125							
PHYSICAL								
Case Material	Ceramic							
Weight (grams)	3.1							
Mounting	Adhesive or solder							

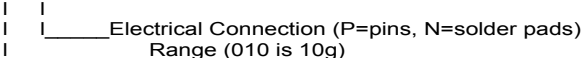
¹ Output is ratiometric to excitation voltage

² Order model 3022-XXX-10254 for temperature compensation resistor values included in the calibration certificate.

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ordering info

PART NUMBERING Model Number+Range+Electrical Connection

3022-GGG-P

 _____ Electrical Connection (P=pins, N=solder pads)
 _____ Range (010 is 10g)

Example: 3022-010-P
 Model 3022, 10g, Pins