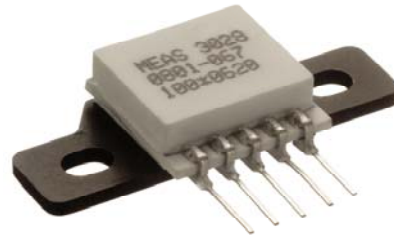


Model 3028 Accelerometer



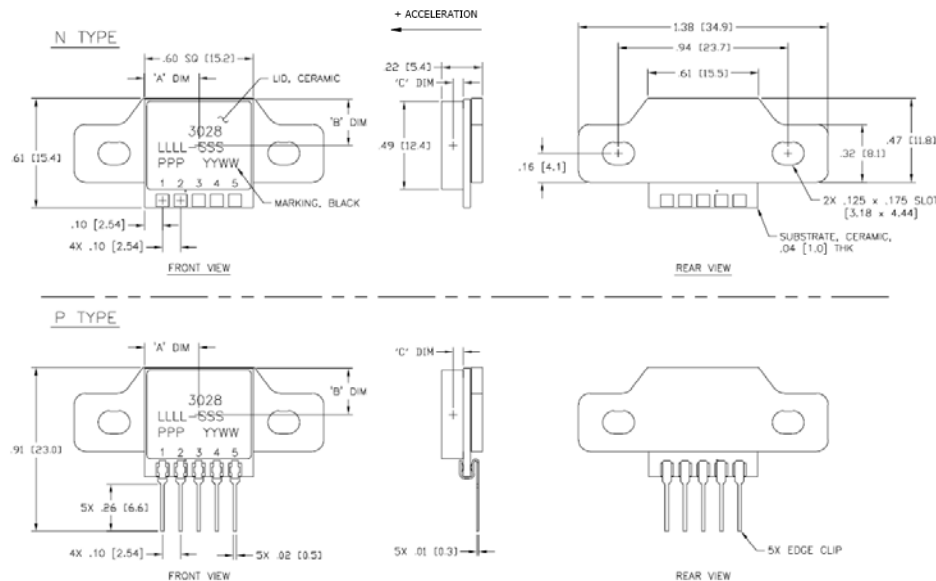
Piezoresistive MEMS
DC Response, mV Output
Low Cost
Screw Mounted Flange



The **Model 3028** is a silicon MEMS accelerometer in a Wheatstone bridge configuration. It is packaged on a ceramic substrate with a metal bracket which can be used to bolt the sensor to the mounting location. 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 adhesive mounting, see the model 3022.

dimensions

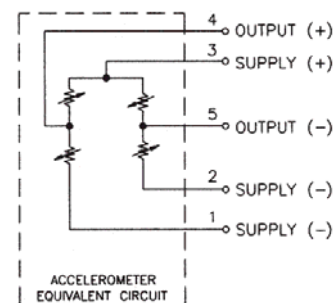


FEATURES

- Bolt 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



Model 3028 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

DYNAMIC

| | ±2 | ±5 | ±10 | ±20 | ±50 | ±100 | ±200 | Notes |
|---------------------------------|----------|----------|---------|---------|---------|---------|----------|-------------------------|
| Range (g) | | | | | | | | |
| 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 | @5Vdc Excitation ±5% |
| 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 | Differential |
| 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 | Aluminum Flange, Ceramic Cover |
| Weight (grams) | 4.5 |
| Mounting | 2x #4-40 Mounting Screws |
| Mounting Torque | 6 lb-in (0.7 N-m) |

¹ Output is ratiometric to excitation voltage

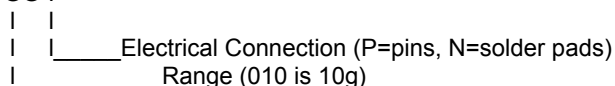
² Order model 3028-XXX-10256 for temperature compensation resistor values included in the calibration certificate.

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ordering info

PART NUMBERING Model Number+Range+Electrical Connection

3028-GGG-P


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

Example: 3028-010-P
 Model 3028, 10g, Pins