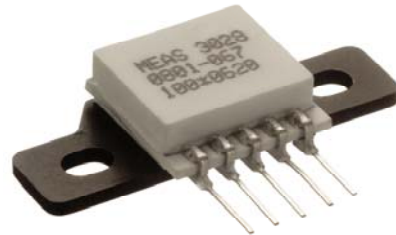


Model 3058 Accelerometer



Piezoresistive MEMS
DC Response
Millivolt Output
Integral Temp Compensation



The Model 3058 is a silicon MEMS accelerometer with integral temperature compensation. 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 3052.

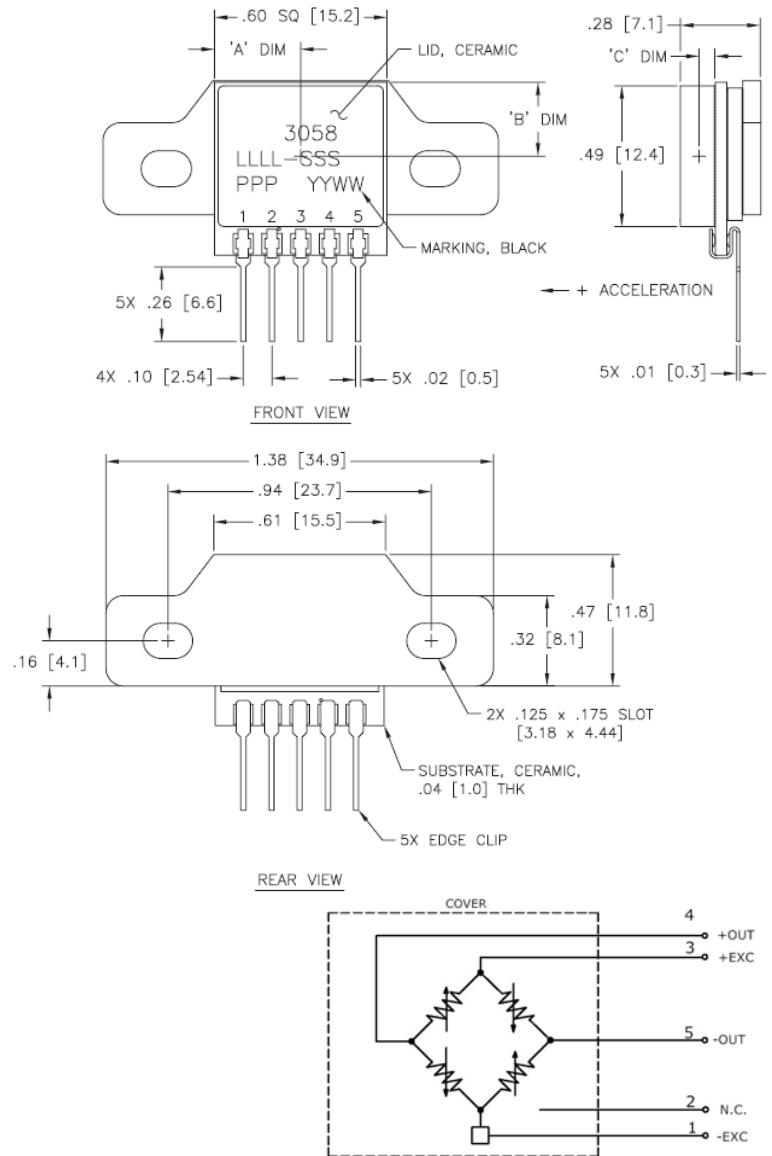
FEATURES

- Bolt Mounted
- $\pm 0.5\%$ Non-Linearity
- $\pm 1.0\%$ Temperature Performance (Typical)
- DC Response, Gas Damping
- Built-in Overrange Stops
- Low Power Consumption
- $\pm 2mV$ Zero Output
- $\pm 2g$ to $\pm 200g$ ranges

APPLICATIONS

- Vibration & Shock Monitoring
- Motion Control
- Impact & Shock Testing
- Transportation Measurements
- Embedded Applications
- Machinery

dimensions



Model 3058 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.

Parameters

DYNAMIC

	±2	±5	±10	±20	±50	±100	±200	Notes
Range (g)	±2	±5	±10	±20	±50	±100	±200	
Sensitivity (mV/g) ¹	5.0-9.0	2.4-3.6	1.2-1.8	0.6-0.9	0.24-0.36	0.12-0.18	0.06-0.09	@5Vdc Excitation
Frequency Response (Hz)	0-150	0-250	0-400	0-600	0-1000	0-1500	0-2000	±5%
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	<1 Typical
Damping Ratio	0.7	0.7	0.7	0.7	0.7	0.7	0.6	
Shock Limit (g)	10000	10000	10000	10000	10000	10000	10000	

ELECTRICAL

Zero Acceleration Output (mV)	±2	±2	±2	±2	±2	±2	±2	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	
Output Resistance (Ω)	1900-6500	1900-6500	1900-6500	1900-6500	1900-6500	1900-6500	1900-6500	
Insulation Resistance (MΩ)	>100	>100	>100	>100	>100	>100	>100	@50Vdc
Residual Noise (μV RMS)	10	10	10	10	10	10	10	Maximum
Ground Isolation	Isolated from Mounting Surface							

ENVIRONMENTAL

Thermal Zero Shift (%FSO/°C)	±0.060	±0.060	±0.060	±0.060	±0.060	±0.060	±0.060	
Thermal Sensitivity Shift (%/°C)	±0.060	±0.060	±0.060	±0.060	±0.060	±0.060	±0.060	
Operating Temperature (°C)	-40 to +125							
Compensated Temperature (°C)	0 to +50							
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 The maximum recommended soldering temperature is +260°C

Wiring color code: +Excitation = Pin 3; -Excitation = Pin 1; +Output = Pin 4; -Output = Pin 5; No Connection = Pin 2 (Pin 2 is used for trimming during assembly and should not be connected)

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ordering info

PART NUMBERING Model Number+Range+Electrical Connection

3058-GGG-P

| |
 | | Electrical Connection (P=pins)
 | Range (010 is 10g)

Example: 3058-010-P
Model 3058, 10g, Pins