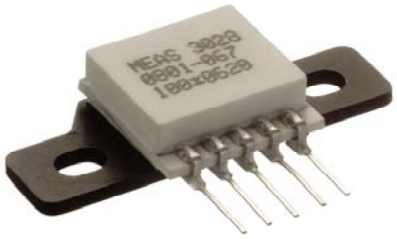
Model 3058 Accelerometer

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 ±2g to ±100g range and provides a flat frequency response to minimum 1500Hz. 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.

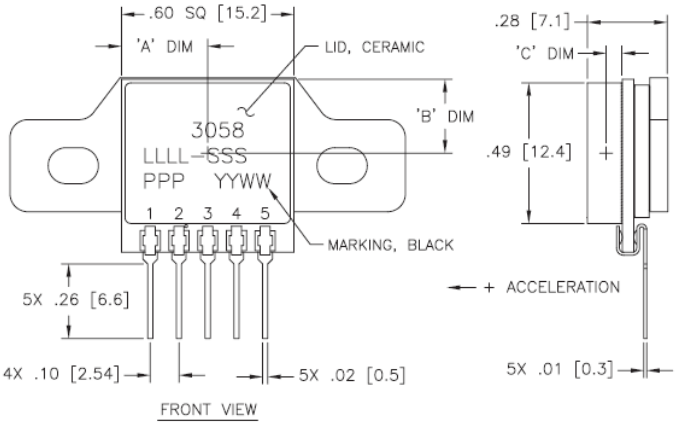
FEATURES

- Bolt Mounted
- ±0.5% Non-Linearity
- ±1.0% Temperature Performance (Typical)
- DC Response
- Gas Damping
- Built-in Overrange Stops
- Low Power Consumption

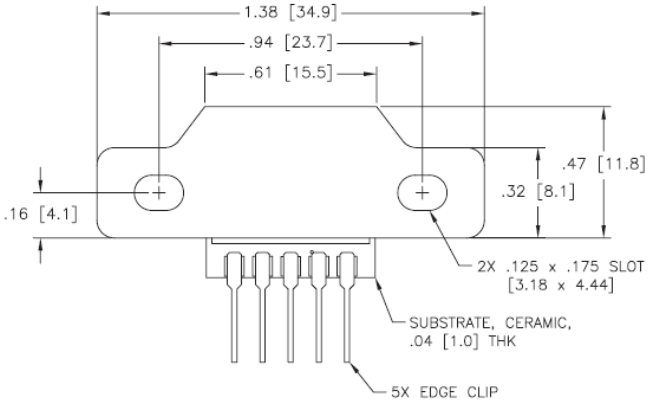
APPLICATIONS

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

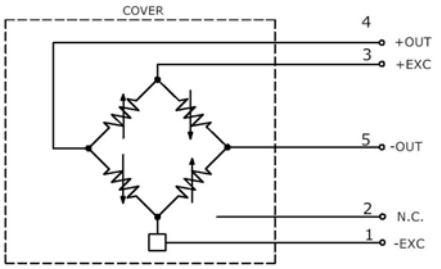
dimensions



FRONT VIEW



REAR VIEW



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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. Standard product parameters are described in PSC-1002 for Embedded DC Accelerometers.

Parameters							
DYNAMIC							**Notes**
Range (g)	±2	±5	±10	±20	±50	±100	
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	@5Vdc Excitation
Frequency Response (Hz)	0-150	0-250	0-400	0-600	0-1000	0-1500	±5%
Natural Frequency (Hz)	700	800	1000	1500	4000	6000	
Non-Linearity (%FSO)	±0.5	±0.5	±0.5	±0.5	±0.5	±0.5	
Transverse Sensitivity (%)	<3	<3	<3	<3	<3	<3	<1 Typical
Damping Ratio	0.7	0.7	0.7	0.7	0.7	0.7	
Shock Limit (g)	10000	10000	10000	10000	10000	10000	
ELECTRICAL							
Zero Acceleration Output (mV)	±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	
Output Resistance (Ω)	1900-6500	1900-6500	1900-6500	1900-6500	1900-6500	1900-6500	
Insulation Resistance (MΩ)	>100	>100	>100	>100	>100	>100	@50Vdc
Residual Noise (µV RMS)	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	
Thermal Sensitivity Shift (%/°C)	±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						
Cable	Not applicable						
Weight (grams)	4.5						
Mounting	2x #4-40 Mounting Screws						
Mounting Torque	6 lb-in (0.7 N-m)						
AWG	Not applicable						

[1] Output is ratiometric to excitation voltage

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)

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

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