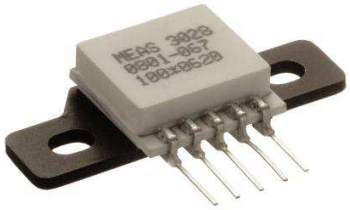
# MODEL 3058A ACCELEROMETER



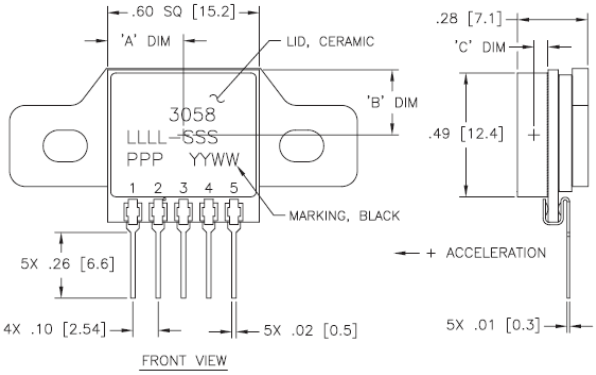
## SPECIFICATIONS

- **Piezoresistive MEMS**
- **DC Response, Gas Damped**
- **Screw Mounted**
- **Integral Temp Compensation**

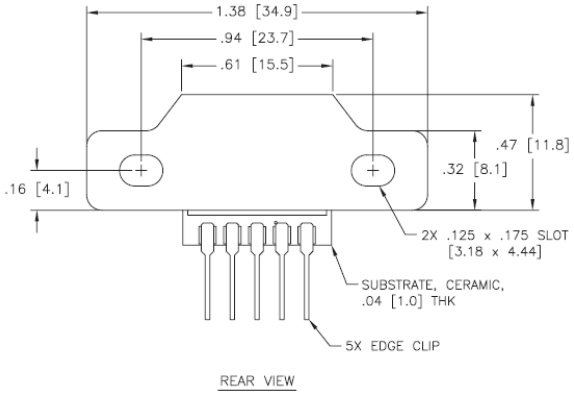
**The Model 3058A** is a silicon MEMS accelerometer with integral temperature compensation. The accelerometer is packaged on a ceramic substrate with a metal bracket which can be used to bolt the sensor to the mounting location. The accelerometer is offered in ranges from ±2g to ±100g range and provides 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 3052A.

## dimensions




FRONT VIEW



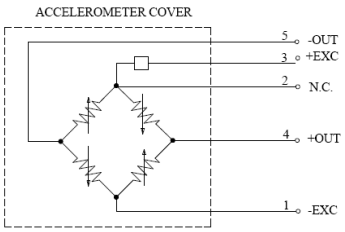

REAR VIEW

## FEATURES

- **Bolt Mounted**
- **±1.0% Non-Linearity**
- **0 to +50°C Temp Compensation**
- **Built-in Over-range Stops**
- **Low Power Consumption**

## APPLICATIONS

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



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## MODEL 3058A ACCELEROMETER

# 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** | | | | | | | **Notes** |
| Range (g) | ±2 | ±5 | ±10 | ±20 | ±50 | ±100 | |
| Sensitivity (mV/g)[1] | 8.0-16.0 | 4.8-7.2 | 2.4-3.6 | 1.2-1.8 | 0.48-0.72 | 0.24-0.36 | @5Vdc Excitation |
| Frequency Response (Hz) | 0-150 | 0-250 | 0-350 | 0-550 | 0-1000 | 0-1300 | ±5% |
| Natural Frequency (Hz) | 700 | 800 | 1000 | 1500 | 4000 | 6000 | |
| Non-Linearity (%FSO) | ±1.0 | ±1.0 | ±1.0 | ±1.0 | ±1.0 | ±1.0 | |
| Transverse Sensitivity (%) | <3 | <3 | <3 | <3 | <3 | <3 | <1 Typical |
| Damping Ratio | 0.7 | 0.7 | 0.7 | 0.7 | 0.6 | 0.5 | |
| Shock Limit (g) | 3000 | 3000 | 3000 | 3000 | 5000 | 5000 | |

| | | |
|---|---|---|
| **ELECTRICAL** | | |
| Zero Acceleration Output (mV) | ±2 | Differential |
| Excitation Voltage (Vdc) | 2.7 to 12 | |
| Input Impedance (Ω) | 1200-6500 | |
| Output Impedance (Ω) | 1200-6500 | |
| Insulation Resistance (MΩ) | >100 | @50Vdc |
| Residual Noise (µV RMS) | 10 | Maximum |
| Ground Isolation | Isolated from Mounting Surface | |
| **ENVIRONMENTAL** | | |
| Thermal Zero Shift (%FSO/°C) | ±0.060 | 0 to +50°C |
| Thermal Sensitivity Shift (%/°C) | ±0.060 | 0 to +50°C |
| Operating Temperature (°C) | -40 to +125 | |
| Compensated Temperature (°C) | 0 to +50 | |
| Storage Temperature (°C) | -40 to +125 | |
| Humidity | Epoxy Sealed, IP61 | |
| **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

| | | |
|---|---|---|
| **Calibration supplied:** | CS-SENS-0100 | NIST Traceable Amplitude Calibration at 100Hz |
| **Optional accessories:** | 121 | Three Channel DC Signal Conditioner Amplifier |
| | 140A | Auto-Zero Inline Amplifier |

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## ORDERING INFO

PART NUMBERING Model Number+Range+Electrical Connection

3058A-GGG-P
I I_____Electrical Connection (P=pins)
I_____Range (010 is 10g)

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

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# We are here for you. Addresses and Contacts.


Headquarter Switzerland:

Angst+Pfister Sensors and Power AG
Thurgauerstrasse 66
CH-8050 Zurich
Phone +41 44 877 35 00
sensorsandpower@angst-pfister.com

Office Germany:

Angst+Pfister Sensors and Power Deutschland GmbH
Edisonstraße 16
D-85716 Unterschleißheim
Phone +49 89 374 288 87 00
sensorsandpower.de@angst-pfister.com


Scan here and get an overview of personal contacts!

sensorsandpower.angst-pfister.com