MODEL 3255A ACCELEROMETER



SPECIFICATIONS

- **PC Board Mountable Accelerometer**
- **Amplified Output**
- **Temperature Compensated**
- **High Over-Range Protection**

The Model 3255A is a signal conditioned board mountable MEMS accelerometer available in ±25g to ±500g ranges. The package can be mounted in one of two orientations, allowing the measurement axis to be either parallel or perpendicular to the mounting surface without the use of costly brackets. The accelerometer incorporates integral temperature compensation and offers a flat frequency response from DC to 1500Hz.

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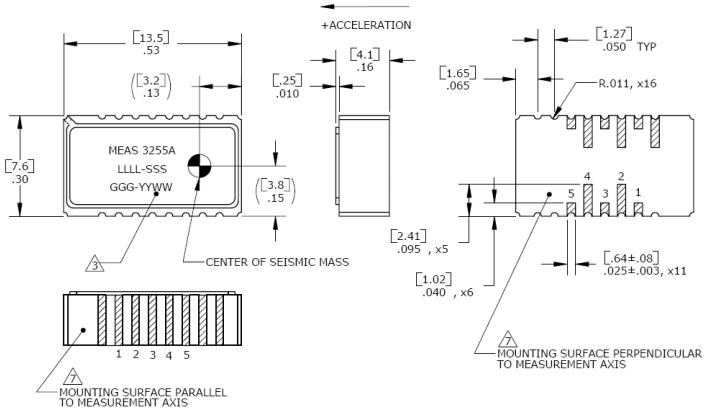
FEATURES

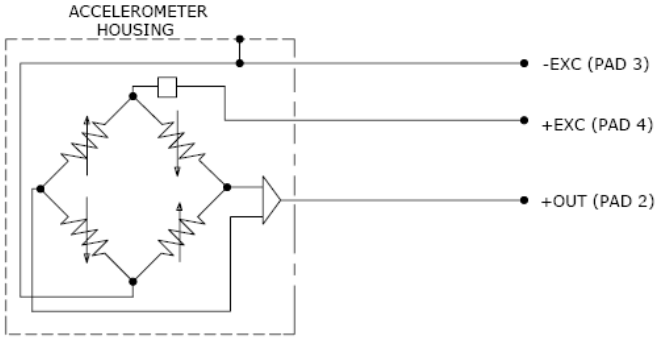
- **±25g to ±500g Ranges**
- **Three Axis Mounting Options**
- **Surface Mount Package**
- **DC Response, Gas Damping**
- **Hermetically Sealed**
- **5Vdc Excitation**

APPLICATIONS

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

dimensions





US Patents 5,103,667; 5,253,510; 5,445,006; 5,503,016; and 5,616,863 apply

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)	±25	±50	±100	±250	±500	
Sensitivity (mV/g) ±10%	80.0	40.0	20.0	8.0	4.0	@5Vdc Excitation[1]
Frequency Response (Hz)	0-800	0-1000	0-1200	0-1500	0-1500	±5%
Natural Frequency (Hz)	4000	4000	6000	8000	10000	
Non-Linearity (%FSO)	±0.5	±0.5	±0.5	±0.5	±0.5	
Transverse Sensitivity (%)	<3	<3	<3	<3	<3	<1 Typical
Damping Ratio	0.7	0.7	0.7	0.6	0.5	Typical
Shock Limit (g)	5000	5000	5000	5000	5000	
ELECTRICAL						
Zero Acceleration Output (V)	2.5±0.10	2.5±0.10	2.5±0.10	2.5±0.10	2.5±0.10	Single-Ended
Excitation Voltage (Vdc)[1]	2.7 to 5.5	2.7 to 5.5	2.7 to 5.5	2.7 to 5.5	2.7 to 5.5	
Excitation Current (mA)	<5	<5	<5	<5	<5	
Bias Voltage (Vdc)	2.5	2.5	2.5	2.5	2.5	
Full Scale Output Voltage (Vdc)	±2.0	±2.0	±2.0	±2.0	±2.0	
Output Impedance (Ω)	<100	<100	<100	<100	<100	
Insulation Resistance (MΩ)	>100	>100	>100	>100	>100	@100Vdc
Residual Noise (µV RMS)	800	400	400	400	400	Passband
Ground Isolation	Isolated from Mounting Surface					
ENVIRONMENTAL						
Thermal Zero Shift (%FSO/°C)	±0.018	±0.018	±0.018	±0.018	±0.018	
Thermal Sensitivity Shift (%/°C)	±0.021	±0.021	±0.021	±0.021	±0.021	
Operating Temperature (°C)	-54 to +121					
Compensated Temperature (°C)	-20 to +85					
Storage Temperature (°C)	-54 to +121					
PHYSICAL						
Case Material	Ceramic					
Weight (grams)	1.5					
Mounting	Solder					

[1]Output is ratiometric with excitation voltage.
[2]Do not electrically connect undesignated pads in sensor application. Except pad 5 may be tied to pad 4 without affecting performance.
[3]Maximum ratings without damage:

- Excitation voltage: +5.5Vdc
- ESD protection: 4kV
- Solder reflow temperature: +260°C (10 seconds)

[4]Adhesive underfill suggested for high-g applications.

Calibration supplied: CS-SENS-0100 NIST Traceable Amplitude Calibration at 80Hz

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ORDERING INFO

PART NUMBERING Model Number+Range

3255A-GGG
I
I_____Range (050 is 50 g)

Example: 3255A-050
Model 3255A, 50g

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