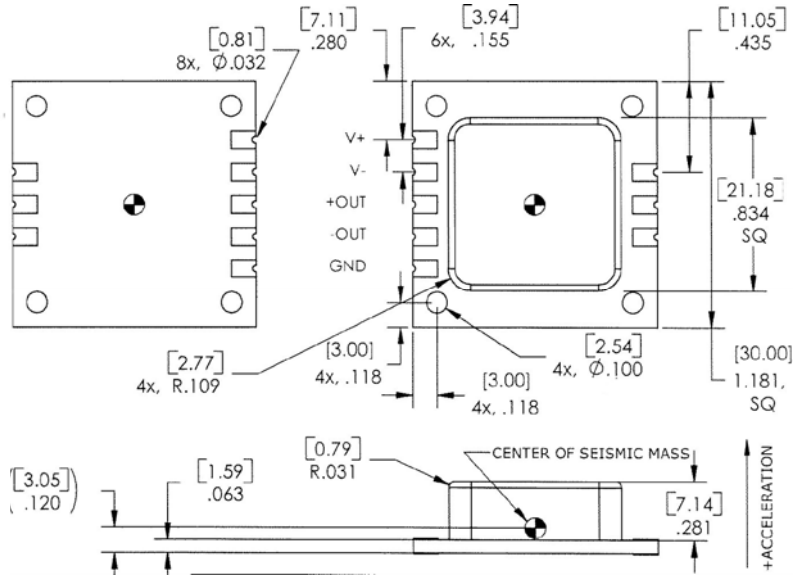
Model 4503 Accelerometer

SMT Mount Accelerometer
Silicon MEMS
Signal Conditioned Accelerometer
Low Noise, Micro-g Resolution

The Model 4503 is an economical board mountable accelerometer with micro-g resolution. The output is signal conditioned and temperature compensated and offers an optional 2.5V reference for single-ended or differential output measurements. The model 4503 is available in ranges from ±2g to ±200g with a frequency response up to 1500Hz. The gas damped MEMS sensing element provides stable long-term performance.

dimensions

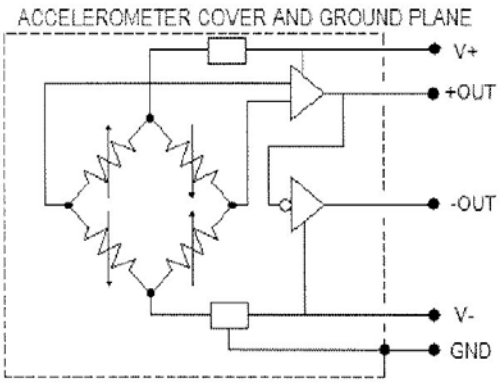


FEATURES

- Board Mountable Accelerometer
- 8 to 32Vdc Excitation Voltage
- Gas Damping
- Ranges: ±2g to ±200g
- DC Response
- Low Power Consumption
- 8 to 32Vdc Excitation Voltage

APPLICATIONS

- Low Frequency Monitoring
- Seismic Applications
- Tilt Measurements
- Machine Control
- Motion Analysis
- Test & Measurement Applications



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performance specifications

All values are typical at +24°C, 100Hz and 12Vdc 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	±200	
Sensitivity (mV/g)	1000	400	200	100	40	20	10	
Frequency Response (Hz)	0-150	0-250	0-350	0-600	0-800	0-1300	0-1500	±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	
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)	±100	±100	±100	±100	±100	±100	±100	Differential
Excitation Voltage (Vdc)	8 to 32	8 to 32	8 to 32	8 to 32	8 to 32	8 to 32	8 to 32	
Excitation Current (mA)	<5	<5	<5	<5	<5	<5	<5	
Bias Voltage (Vdc)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Output Resistance (Ω)	<100	<100	<100	<100	<100	<100	<100	
Insulation Resistance (MΩ)	>100	>100	>100	>100	>100	>100	>100	@100Vdc
Residual Noise (μV RMS)	80	60	60	70	80	80	80	Passband
Ground Isolation	Isolated from Mounting Surface							
ENVIRONMENTAL								
Thermal Zero Shift (%FSO/°C)	±0.040	±0.040	±0.040	±0.040	±0.040	±0.040	±0.040	(0 to 70°C)
Thermal Sensitivity Shift (%/°C)	±0.050	±0.050	±0.050	±0.050	±0.050	±0.050	±0.050	(0 to 70°C)
Operating Temperature (°C)	-20 to 85							
Compensated Temperature (°C)	0 to 70							
Storage Temperature (°C)	-40 to 100							
PHYSICAL								
Case Material	FR4 Circuit Board, Nickel-Silver Cover							
Weight (grams)	6.9							
Mounting	SMT or Screw							

Optional accessories: 101 Three Channel DC Signal Conditioner Amplifier

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ordering info

PART NUMBERING Model Number+Range

4503-GGG
|
|_____Range (010 is 10g)

Example: 4503-010
Model 4503, 10g