## 13207A/23207A Accelerometer



## ±10 g to ±70 g Accelerometers with Wide Bandwidth to 10 kHz

#### **Analog Accelerometer**

The Measurement Specialties 13207A (uniaxial) and 23207A (biaxial) analog accelerometers offer a frequency response from 0 to 10 kHz while accurately measuring  $\pm 10$  g,  $\pm 20$  g,  $\pm 30$  g,  $\pm 40$  g,  $\pm 50$  g,  $\pm 60$  g or  $\pm 70$  g accelerations on one or two axes. Their tough, compact housing holds potted electronics and their small size and built-in power regulation allow installation where other accelerometers can't. Choose the bandwidth and range options best suited for your application.

The voltage output of the 13207A and 23207A is directly proportional to the acceleration along the axis. Each DC-coupled output is fully scaled, referenced, and temperature compensated. Users are supplied with a calibration certificate listing sensitivity and offset for each sensor, as well as the on-axis and transverse alignment parameters needed to ensure rapid and efficient system implementation. Increased offset compensation can be obtained with Option C002.

The accelerometers have a nominal full scale output swing of ±2 Volts. The zero g output level is nominally +2.5 Volts. Custom versions can be provided.

### **FEATURES**

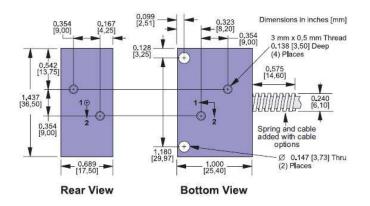
- Wide Bandwidth to 10 kHz
- High Accuracy and Linearity over Wide
  Temperature Range
- Rugged for Harsh Environments
- Small Size
- Built-in Power Supply Regulation
- Easy Installation
- Three Year Warranty

### **APPLICATIONS**

- Vehicle dynamics
- Construction Equipment
- Research & Development
- Test & Measurement
- Military/Aerospace



#### dimensions



Two through holes and four 3 mm x 0.5 mm threaded holes are provided for mounting.

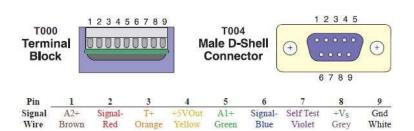
Mounting adapters (sold separately)



35172A Vertical

35173A Horizontal

## connections



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# 13207A/23207A Accelerometer



#### performance specifications

 $T_A = T_{min}$  to  $T_{max}$ ; 8.5  $\leq V_S \leq$  36 V; Acceleration = 0 g unless otherwise noted; within one year of calibration. Improved specifications available upon request.

Range: Measurement Full Scale $\pm 10$ $\pm 70$ gOn each axis. Must specify via Option RnnnSensitivity $\pm 29^{\circ}$ mV/gPrecise values on cal certificateAt 25°C, Option R070 $\pm 29^{\circ}$ mV/gPrecise values on cal certificateDrift Tim in To Tmax $\pm 0.5$ %Percent of sensitivity at 25°CZero g Bias Level $\times$ gAt <1.25°C/min. temperature rate of changeDrift to Tim or Tmax, Option C001 $\pm 1.5$ gAt <1.25°C/min. temperature rate of changeAlignment $\pm 250$ mgAt <1.25°C/min. temperature rate of changeDeviation from Ideal Axes $\pm 1.0$ $\pm 3.0$ degreesPrecise values on cal certificate. Can be compensated if requiredTransverse Sensitivity $\pm 0.25$ %Inherent sensor error, excluding misalignmeNolinearity $\pm 0.25$ % FSRBest fit straight lineFrequency Response010kHzUpper cutoff per option Bnn, -3 dB pt ±10%Noise Density4mg/viHzSelf-Test Input Impedance10k $\Omega$ Pulup. Logic 1°2.3.5 V, Logic 0°2.1.5 V; 0° cause self-testSensitivity6.45mV/°CO'C Bias Level509mVOutput Voltage Swing0.254.75V $l_{out} \pm 0.5$ mACapacitive Drive Capability-80+80V-80 V continuous, >38 V if s550 ms, duty <1Input Voltage Operating+8.5+36VContinuousInput Voltage Operating+8.5+36VContinuousInput Voltag		• "		• •		
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Self-Test Input Impedance10kΩPullup. Logic "1"≥3.5 V, Logic "0"≤1.5 V; "0" causes self-testTemperature SensorAccuracy ±1 °C over temperatureSensitivity $6.45$ mV/°C0°C Bias Level $509$ mVOutputs $100$ $pF$ Capacitive Drive Capability $0.25$ $4.75$ V $I_{out}$ = $\pm 0.5$ mACapacitive Drive Capability $1000$ $pF$ Power Supply (V <sub>s</sub> ) $1000$ $pF$ Input Voltage Limits $-80$ $+80$ V $-80$ V continuous, >38 V if ≤550 ms, duty <1Input Voltage Limits $-80$ $+120$ $dB$ $DC$ Rejection Ratio $>120$ $dB$ $DC$ Temperature Range (T <sub>A</sub> ) $-40$ $+85$ °CMass $35$ $grams$ Excludes cable; T000 values on cal certification	Noise Density		4		mg/√Hz	
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Input Voltage - Operating  +8.5  +36  V  Continuous    Input Current  15  mA  No load, quiescent    Rejection Ratio  >120  dB  DC    Temperature Range (T <sub>A</sub> )  -40  +85  °C    Mass  35  grams  Excludes cable; T000 values on cal certification		-80		+80	V	-80 V continuous, >38 V if ≤550 ms, duty <1%
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Rejection Ratio  >120  dB  DC    Temperature Range (T_A)  -40  +85  °C    Mass  35  grams  Excludes cable; T000 values on cal certification			15		mA	No load, guiescent
Temperature Range (T_A)-40+85°CMass35gramsExcludes cable; T000 values on cal certification			>120		dB	•
Mass  35  grams  Excludes cable; T000 values on cal certification		-40		+85		
			35		-	Excludes cable: T000 values on cal certificate
	Shock Survival	-4000		+4000	g	Any axis for 0.5 ms, powered or unpowered

\*Scale linearly with range option Rnnn; see Ordering Information

