



Silicon Designs, Inc.

Advanced Accelerometer Solutions for Demanding Applications
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Silicon Designs, Inc. (SDI) has developed a **miniature accelerometer technology** which combines additive micro machining and integrated circuit technology to produce a **highly reliable, exceptionally rugged, capacitive acceleration sensor**.

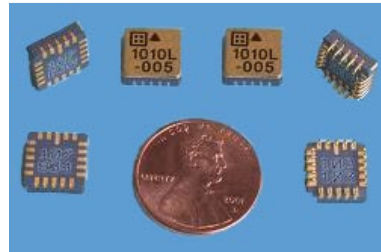
SDI's current sensor technology supports accelerometers with full scale sensitivity from **2g to over 20,000 g**. Over the standard range (2 to 400 g), most accelerometers can continue in spec. operation after **sustained exposure of up to 10,000 g and limited temperature exposure above 200°C**.

SDI's **rugged, integrated amplification** design provides both **DC and dynamic response** to acceleration. Integrated accelerometer electronics provide a **high level, low impedance output** to minimize environmental noise pickup, and **no separate charge amplifiers are needed**.

SDI's accelerometers are already used by the US Military, NASA, and in the automotive, transportation, and agricultural industries. They have been shot from cannons, dropped from airplanes, and sent to space – all with stellar performance records.

Single Axis Accelerometers

- Ranges: 2 to 400gs and -55/+125°C
- +5 VDC
- 20 Pin Chip Carriers
- SMD Leadless or J-Lead
- Digital Pulse Density, $\pm 4V$ Differential



Data Acquisition Systems

- Ranges: 2 to 200gs and -40/+65°C
- 2 D-Cell Batteries
- DB-9 cable to PC Serial Port
- Download to PC
Win9X/NT4.0/2000/XP
- 3.5" x 4.5" x 2.2"



Triaxial Accelerometer Modules

- Ranges: 2 to 400gs and -55/+125°C
- +5 VDC to +32VDC
- Ribbon, Sockets, or 6- or 8-Wire Cable to Plug/Shield
- Digital Pulse Density, $\pm 4V$ or $\pm 5V$ Differential
- 1.2"sq. x 1.0" or 1.0"sq. x .83"



Single Axis Analog Accelerometer Modules

- Ranges: 2 to 400gs and -55/+125°C
- +5 VDC to +32VDC
- Sockets or 4-Wire Cable to Plug/Shield
- Digital Pulse Density, $\pm 4V$ or $\pm 500mV$ Differential
- 1.0"sq. x .3" or 1.0"sq. x .33" or 1.0" x .63" x .30



All of SDI's **high performance, low noise** accelerometer models are based upon the same **hermetically sealed, nitrogen damped, capacitive** sensor which provides both **DC (constant)** and **AC (vibration)** response.

SDI CAPACITIVE ACCELEROMETERS

- 2 to 1000g Full Scale
- DC & Dynamic Acceleration Response
- Wide Temperature Range (-55/+125 °C available)
- Various Accelerometer Outputs:
 - Digital: 100 to 1000 kHz Clock Frequency
 - Analog: $\pm 4V$ Differential or 0.5 to 4.5V Single Ended
- $\pm 1\%$ Operational Linearity
- Overshoot Resistance to 10,000 g

PROVEN USES

- Agricultural - Harvesting Shock & Vibration, Machine Control
- Automotive - Testing, Suspension, Air Bags
- Down Hole Drilling - Tilt/Attitude Sensing, Machinery health
- Manufacturing - Testing, Production Line & Shipping Monitoring
- Military/Space/Aerospace - Telemetry, Guidance, Inertial Guidance, Impact Detection
- Transportation - Rail-car sensing, Shipping Monitoring, Testing