

FEATURES

- User configurable sensor range
±120 g, ±240 g, and ±480 g
- PSI5 communication protocol, V2.1 compliant
- Asynchronous operation—PSI5-A10P-250[228]/1L
- Synchronous operation—PSI5-P10P-500/3L and others
- Daisy-chain operation with bidirectional communication
- Backwards compliant with PSI5 V1.3
- Selectable 10- or 16-bit sensor data
- High accuracy interpolation routine
- User-selectable, continuous auto-zero operation
- Electromechanical sensor self-test
- High resistance to electromagnetic interference (EMI)/
radio frequency interference (RFI)
- 4.5 V to 16.5 V operation
- Electronic serial number
- Qualified for automotive applications

APPLICATIONS

- Front impact crash sensing
- Side impact crash sensing

GENERAL DESCRIPTION

The **ADXL151** is a g range configurable single axis integrated satellite sensor, compliant to the PSI5 V2.1 specification. The **ADXL151** enables low cost solutions for front and side impact airbag satellite sensor applications. Acceleration data is sent to the control module via a digital 2-wire current loop interface bus.

The g range of the sensor is configurable to provide full-scale acceleration measurements of ±120 g, ±240 g, or ±480 g. Additionally, the device can be configured to transmit data from multiple g ranges during predefined time slots, in accordance with the PSI5 specification. The device transmits 10- or 16-bit acceleration data to the control module, and can be configured to include either a 1-bit parity check, or a 3-bit cyclic redundancy check (CRC). The **ADXL151** has a unique electronic serial number.

The **ADXL151** is available in a 12-lead, 4 mm × 4 mm LFCSP package. The device is specified to operate over the full automotive temperature range, from -40°C to +125°C.

FUNCTIONAL BLOCK DIAGRAM

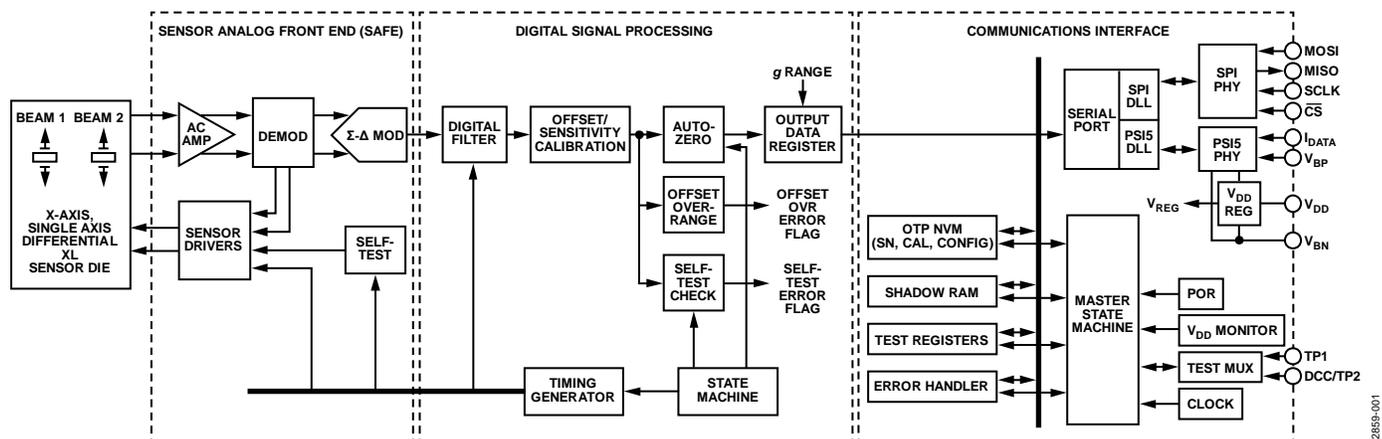


Figure 1.

For more information about the **ADXL151**, contact the Analog Devices, Inc., *Customer Interaction Center* at http://www.analog.com/technical_support to connect with a technical support specialist.

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