

# Low Cost, Single Axis, PSI5-Compatible Satellite Sensor

**Data Sheet** 

### 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

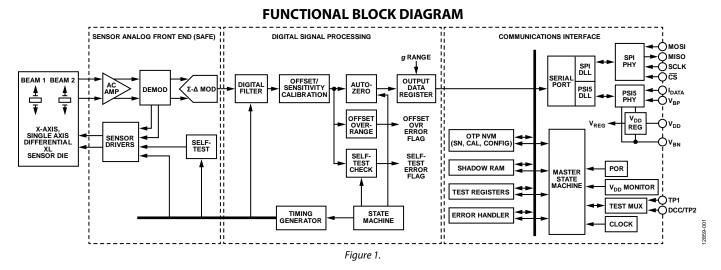
### **GENERAL DESCRIPTION**

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.

**ADXL151** 

The *g* range of the sensor is configurable to provide full-scale acceleration measurements of  $\pm 120 \ g$ ,  $\pm 240 \ g$ , or  $\pm 480 \ g$ . 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  $\times$  4 mm LFCSP package. The device is specified to operate over the full automotive temperature range, from -40 °C to +125 °C.



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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## ADXL151

## NOTES

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