Low Cost Single Axis PSI5 Compatible Satellite Sensor

Data Sheet

ADXL716

FEATURES

- **User configurable sensor range: ±1.6 *g*, ±16 *g***
- **PSI5 Communication Protocol Version 2.1 compliant**
- **Asynchronous operation: PSI5-A10P-250[228]/1L**
- **Synchronous operation: PSI5-P10P-500/3L and others**
  - **Daisy-chain operation with bidirectional communication**
  - **Backward compliant with PSI5 Version 1.3**
- **Selectable 16- or 10-bit sensor data**
- **0.25 µs data interpolation routine**
- **User selectable, continuous auto-zero operation**
- **Electromechanical sensor self test**
- **High resistance to EMI/RFI**
- **4.5 V to 16.5 V operation**
- **Electronic serial number**
- **Qualified for automotive applications**

APPLICATIONS

- **Active/adaptive suspension**
- **Engine vibration support**

GENERAL DESCRIPTION

The ADXL716 is a *g* range configurable single-axis integrated satellite sensor, compliant to the Peripheral Sensor Interface 5 (PSI5) Version 2.1 specification. The ADXL716 (x-axis) enables low cost solutions for active suspension satellite sensor applications. Acceleration data is sent to the control module via a digital 2-wire current loop interface bus.

The device utilizes an error correcting code (ECC) protected one-time programmable (OTP) memory. The *g* range of the sensor is configurable to provide full-scale acceleration measurement of ±1.6 *g* or ±16 *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-bit 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). Each device has a unique electronic serial number.

The ADXL716 is available in a 12-lead, 4 mm × 4 mm LFCSP package. The ADXL716 is specified to operate over the full automotive temperature range, from −40°C to +125°C.

FUNCTIONAL BLOCK DIAGRAM

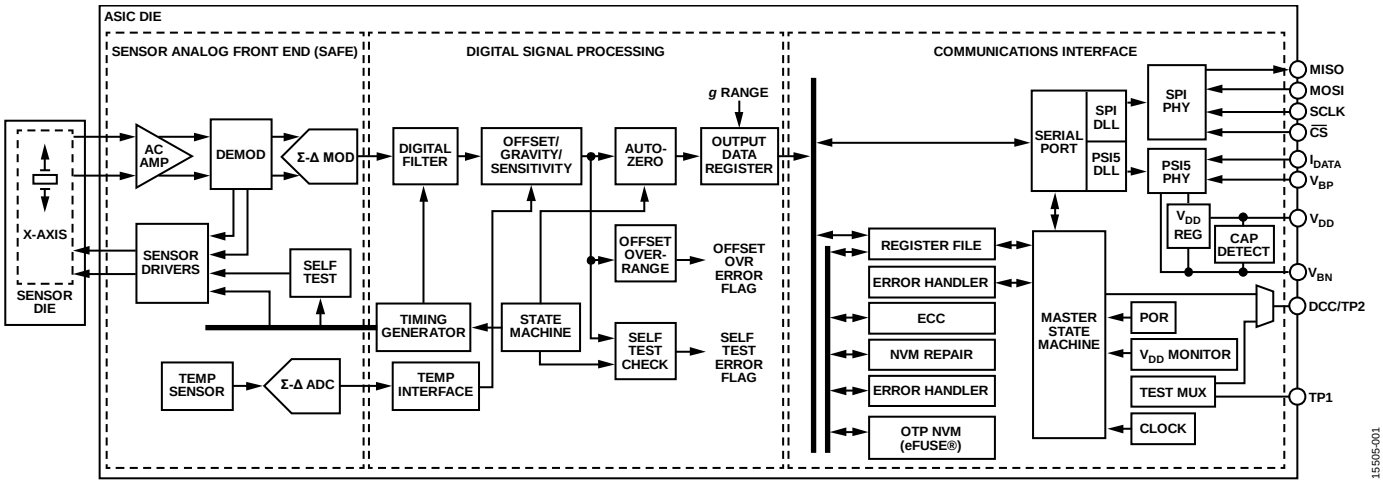

Figure 1.

For more information about the ADXL716, contact the Analog Devices, Inc., Customer Interaction Center at http://www.analog.com/technical_support to connect with a technical support specialist.

Rev. SpA **Document Feedback**

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NOTES

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