

FEATURES

- Single-axis (**ADXL195**) and dual-axis (**ADXL295**) configurations
- $\pm 120\text{ g}$ baseband acceleration channel
 - 12-bit resolution at 62.5 mg/LSB
 - 512 kHz data interpolation rate
- 40 g_{AVG} high frequency signal processing channel
 - 10-bit resolution at 83.3 mg avg/LSB
 - 128 kHz data interpolation rate
- Sensor frequency response down to dc
- On-demand electromechanical self-test
- On-demand HF signal injection self-test
- Fully differential circuitry for high resistance to EMI/RFI
- Independent x- and y-axis sense structures for robust FMEA performance
- Independent x- and y-axis arming thresholds
- Low noise
 - 1 LSB rms (12-bit baseband acceleration channel)
 - 2 LSB rms (10-bit high frequency acceleration channel)
- Qualified for automotive applications
- Temperature range: -40°C to $+105^{\circ}\text{C}$
- 3.3 V and 5 V operation

APPLICATIONS

- Enhanced crash sensing
- Shock detection

GENERAL DESCRIPTION

The **ADXL195/ADXL295** are dual spectrum accelerometers that measure baseband acceleration in up to two axes (XL-X and XL-Y), as well as high frequency (HF) acceleration energy. Identical, independent X and Y sense structures are implemented to achieve the best possible fail-safe performance.

The XL-X and XL-Y channels output baseband acceleration information with a nominal full-scale range of $\pm 120\text{ g}$ and a bandwidth of 408 Hz. The acceleration data is provided as a 12-bit, two's complement word with a resolution of 62.5 mg/LSB.

HF acceleration within the frequency band of 15.5 kHz to 23 kHz is rectified and filtered to generate an average g (g_{AVG}) energy measurement. The HF channel has a nominal full-scale range of 40 g_{AVG} and a bandwidth of 393 Hz. When combined with the XL-X and XL-Y information, HF acceleration information allows for enhanced vehicle impact detection and discrimination.

The **ADXL195/ADXL295** are available in a 16-lead, narrow-body SOIC package with an exposed pad. The **ADXL195/ADXL295** can operate at 3.3 V and 5 V and are specified for operation from -40°C to $+105^{\circ}\text{C}$.

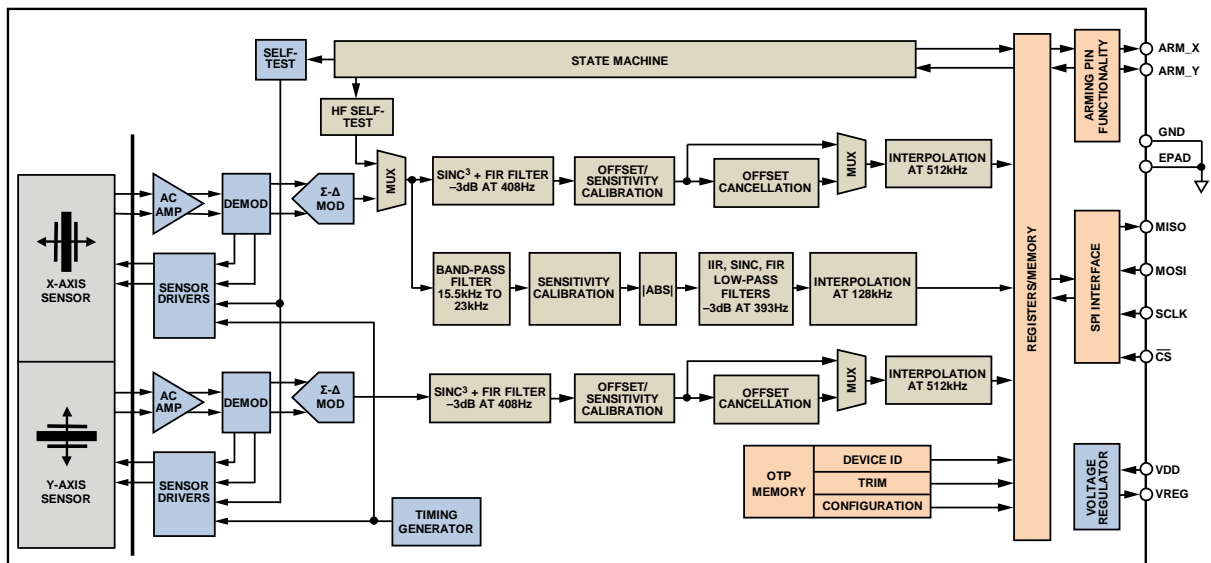
FUNCTIONAL BLOCK DIAGRAM


Figure 1.

For more information about the **ADXL195/ADXL295**, please contact the Analog Devices, Inc., *Customer Interaction Center* at http://www.analog.com/en/content/technical_support_page/fca.html to connect with a technical support specialist.

Rev. SpA
Document Feedback

Information furnished by Analog Devices is believed to be accurate and reliable. However, no responsibility is assumed by Analog Devices for its use, nor for any infringements of patents or other rights of third parties that may result from its use. Specifications subject to change without notice. No license is granted by implication or otherwise under any patent or patent rights of Analog Devices. Trademarks and registered trademarks are the property of their respective owners.

NOTES

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Accelerometers](#) category:

Click to view products by [Analog Devices](#) manufacturer:

Other Similar products are found below :

[AD22372Z-RL7](#) [ADXL313WACPZ-RL](#) [805M1-0050-01](#) [MXC6655XA](#) [MMA7455LT](#) [805M1-0200-01](#) [810M1-0025X](#) [AIS328DQTR](#)
[832M1-0050](#) [805-0050](#) [AD22301](#) [BMA253](#) [ADXL354BEZ](#) [SCA620-EF8H1A-1](#) [MC3413](#) [MXC6244AU](#) [3038-0500](#) [ACH-01-04/10](#) [4692](#)
[ADXL372BCCZ-RL7](#) [735T](#) [787-500](#) [787AM8](#) [793-6](#) [793L](#) [997-M4](#) [HV101](#) [HV102](#) [HV200](#) [PC420AR-10](#) [PC420VP-50](#) [786A](#) [786A-IS](#)
[787A](#) [787A-IS](#) [HT786A](#) [HT787A](#) [PC420VP-10](#) [AD22293Z-RL7](#) [ADIS16003CCCZ](#) [ADIS16228CMLZ](#) [ADXL700WBRWZ-RL](#)
[ADXL1003BCPZ](#) [ADXL103CE-REEL](#) [ADXL203CE-REEL](#) [ADXL206HDZ](#) [ADXL213AE](#) [ADXL288WBRDZ-RL](#) [ADXL295WBRDZ-RL](#)
[ADXL312WACPZ](#)