



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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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 $+105^{\circ}\text{C}$.

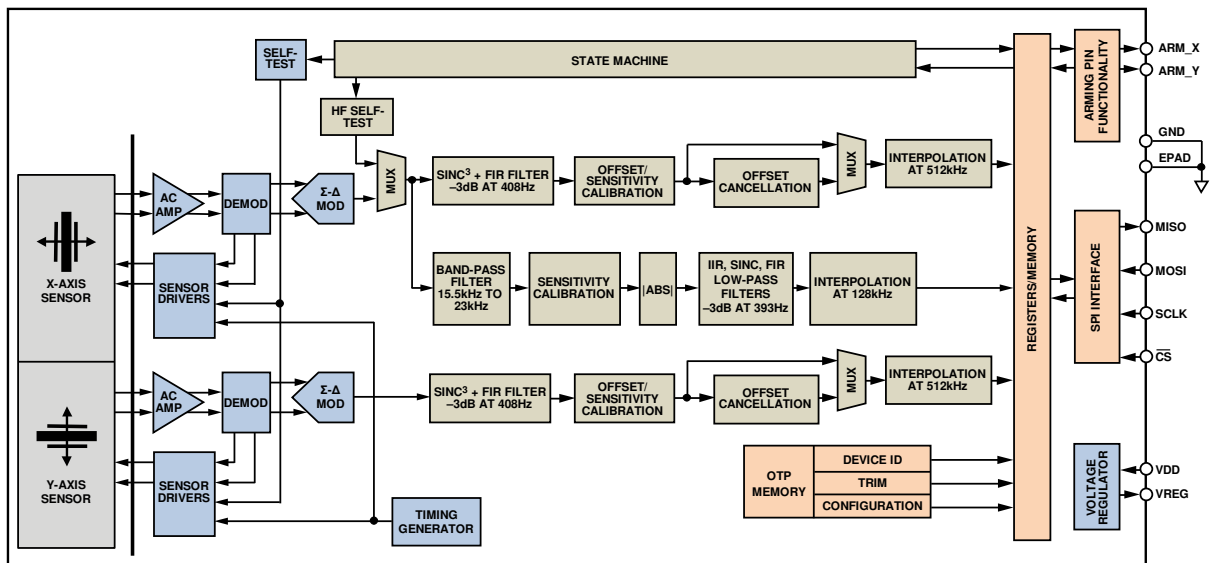
FUNCTIONAL BLOCK DIAGRAM


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.

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