

FEATURES

High performance, triaxial digital output accelerometer
 $\pm 14.2\text{ g}$ full-scale range at 16-bit resolution (0.434 mg/LSB)
2 kHz output sample rate with optional data FIFOs
Programmable filter response
20 Hz, 46 Hz, 92 Hz, 184 Hz
Continuous electromechanical self-test
Additional key-on and on demand self-test routines
Temperature compensated, high precision zero-g bias and sensitivity performance
X-/Y-/Z-axis offset adjust
Low quiescent current draw
High linearity performance
 -40°C to $+105^{\circ}\text{C}$ temperature range
Qualified for automotive applications

APPLICATIONS

Vehicle dynamic control (VDC)
Electronic stability program (ESP)
Electronic chassis control
Platform stabilization/leveling

GENERAL DESCRIPTION

The **ADXL700** device is a high precision, triaxial accelerometer designed for electronic stability control and other high performance applications. A built in temperature compensation routine ensures sensitivity stability to better than $\pm 3\%$ across the entire temperature range. The **ADXL700** is designed with selectable -3 dB filter corner frequencies to satisfy a range of applications, and the 2 kHz output data rate allows sufficient oversampling of the acceleration information.

The acceleration data output from the device is a true 16-bit word and is contained in a 32-bit SPI transaction. The SPI interface contains additional fault detection bits and data formatting bits designed to assist high reliability applications. SPI communications are compatible up to 8 MHz. The 16-bit acceleration data-word offers a resolution of 0.434 mg/LSB for the $\pm 14.2\text{ g}$ full-scale range of the device.

The **ADXL700** is available in an SOIC package with an inverted paddle for improved EMI/RFI robustness. The **ADXL700** operates at both 3.3 V and 5 V, and is specified to operate across the full automotive temperature range of -40°C to $+105^{\circ}\text{C}$.

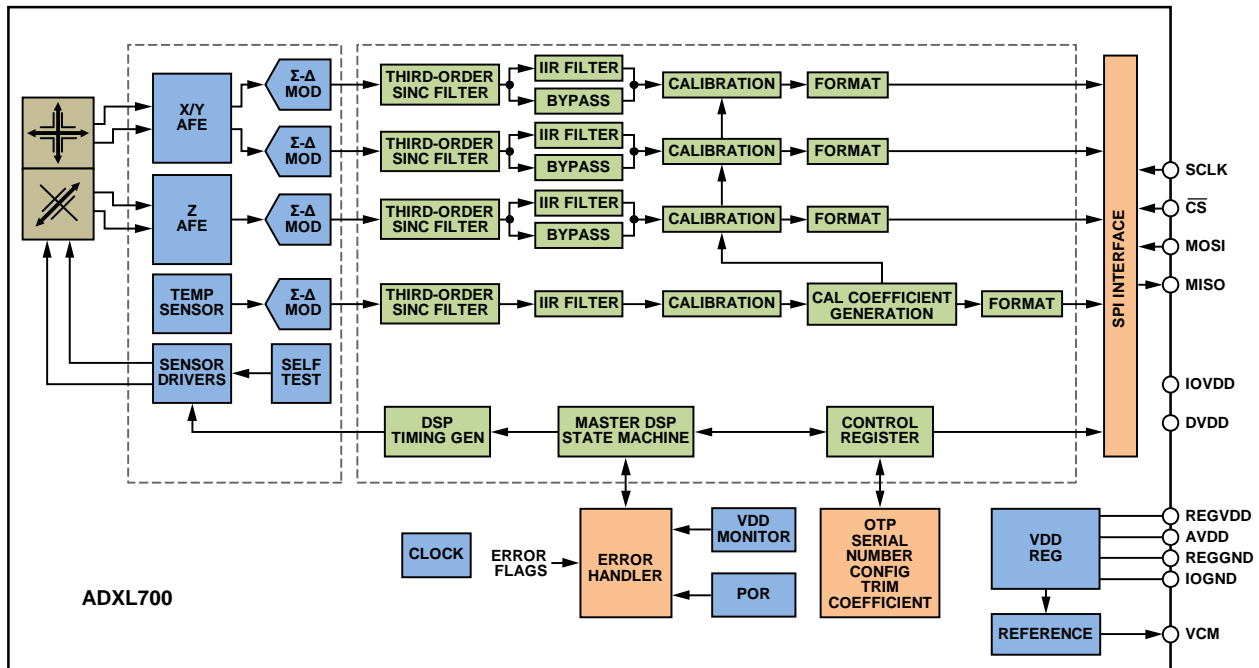
FUNCTIONAL BLOCK DIAGRAM


Figure 1.

For more information about the **ADXL700**, 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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Document Feedback

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One Technology Way, P.O. Box 9106, Norwood, MA 02062-9106, U.S.A.
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ADXL700* PRODUCT PAGE QUICK LINKS

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COMPARABLE PARTS

View a parametric search of comparable parts.

DOCUMENTATION

Data Sheet

- ADXL700: High Precision, Low-g, Digital Triaxial Accelerometer Data Sheet

DESIGN RESOURCES

- adxl700 Material Declaration
- PCN-PDN Information
- Quality And Reliability
- Symbols and Footprints

DISCUSSIONS

View all adxl700 EngineerZone Discussions.

SAMPLE AND BUY

Visit the product page to see pricing options.

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NOTES