FEATURES
High performance, triaxial digital output accelerometer
±14.2 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
Qualified for automotive applications
  −40°C to +105°C temperature range

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

GENERAL DESCRIPTION
The ADXL703 device is a high precision, triaxial accelerometer
designed for electronic stability control and other high perfor-
mance applications. A built in temperature compensation routine
ensures sensitivity stability to better than ±3% across the entire
temperature range. The ADXL703 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 ±14.2 g full-scale range of the device.

The ADXL703 is available in an SOIC package with an inverted
paddle for improved EMI/RFI robustness. The ADXL703
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°C.

For more information about the ADXL703, 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. SpB
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