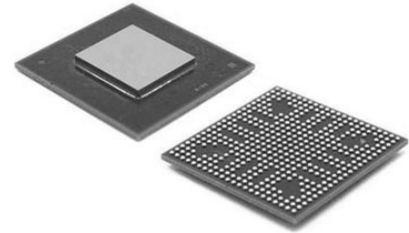


Accelerometers - Board Mount Digital Output Auto Three-Axis Accel

Manufacturers	Analog Devices, Inc
Package/Case	LFCSP EP
Product Type	Motion & Position Sensors
RoHS	Rohs
Lifecycle	



Images are for reference only

Please submit RFQ for ADXL312ACPZ-RL or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

General Description

The ADXL312 is a small, thin, low power, 3-axis accelerometer with high resolution (13-bit) measurement up to ± 12 g. Digital output data is formatted as 16-bit two's complement and is accessible through either a serial port interface (SPI) (3- or 4-wire) or I2C digital interface.

The ADXL312 is well suited for car alarm or black box applications. It measures the static acceleration of gravity in tilt-sensing applications, as well as dynamic acceleration resulting from motion or shock. Its high resolution (2.9 mg/LSB) enables resolution of inclination changes of as little as 0.25° . A built-in FIFO facilitates using oversampling techniques to improve resolution to as little as 0.05° of inclination.

Several special sensing functions are provided. Activity and inactivity sensing detects the presence or absence of motion and whether the acceleration on any axis exceeds a user-set level. These functions can be mapped to interrupt output pins. An integrated 32 level FIFO can be used to store data to minimize host processor intervention.

Low power modes enable intelligent motion-based power management with threshold sensing and active acceleration measurement at extremely low power dissipation.

The ADXL312 is supplied in a small, thin $5\text{ mm} \times 5\text{ mm} \times 1.45\text{ mm}$, 32-lead, LFCSP package.

Features

Ultralow power: as low as 57 μA in measurement mode and 0.1 μA in standby mode at >

Power consumption scales automatically with bandwidth

User-selectable resolution

Fixed 10-bit resolution

Full resolution, where resolution increases with g range, up to 13-bit resolution at ± 12 g (maintaining 2.9 mg/LSB scale factor in all g ranges)

Embedded FIFO technology minimizes host processor load

Built-in motion detection functions for activity/inactivity monitoring

Supply and I/O voltage range: 2.0 V to 3.6 V

SPI (3- and 4-wire) and I2C digital interfaces

Flexible interrupt modes mappable to either interrupt pin

Measurement ranges selectable via serial command

Bandwidth selectable via serial command

Wide temperature range (-40 to $+105^{\circ}\text{C}$)

10,000 g shock survival

Pb free/RoHS compliant

Small and thin: 5 mm \times 5 mm \times 1.45 mm LFCSP package

Qualified for automotive applications

Application

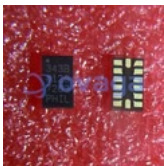
Car alarm

Hill start aid (HSA)

Electronic parking brake

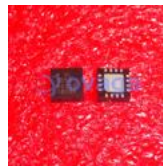
Data recorder (black box)

Related Products



[ADXL343BCCZ](#)

Analog Devices, Inc
LGA-14



[ADXL335BCPZ-RL7](#)

Analog Devices, Inc
LFCSP16



[ADXL103CE](#)

Analog Devices, Inc
CLCC-8



[ADIS16488BMLZ](#)

Analog Devices, Inc
MSM24



[ADXRS642BBGZ](#)

Analog Devices, Inc
CBGA-32



[ADXL357BEZ](#)

Analog Devices, Inc
LCC-14



[ADXL346ACCZ-RL7](#)

Analog Devices, Inc
LGA16



[ADXL345BCCZ-RL7](#)

Analog Devices, Inc
LGA-14