# Lis3dh
Motion Sensor

Overview

The LIS3DH is an ultra-low-power high performance three-axis linear accelerometer belonging to the "nano" family, with digital I2C/SPI serial interface standard output.The device may be configured to generate interrupt signals using two independent inertial wake-up/free-fall events as well as by the positionof the device itself. Thresholds and timing of interrupt generators are programmable by the end user on the fly. LIS3DH has an integrated 32-level first-in, first out (FIFO) buffer allowing the user to store data in order to limit intervention by the host processor.

Key Features

- Ultra-low power 3-axis accelerometer – ideal for battery-powered devices.
- Multiple motion detection functions – free-fall, tap/click, activity, and orientation.
- Flexible performance – supports both high-resolution and low-power modes.
- Built-in FIFO buffer – reduces processor load and saves power.
- Compact LGA package – small size (3 × 3 × 1 mm) for wearables and mobile devices.
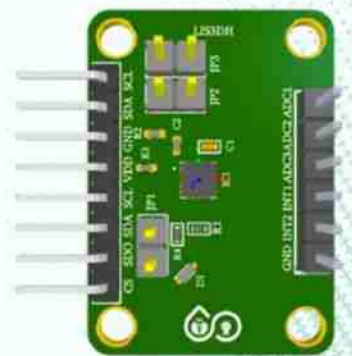
Technical Specifications

- Wide supply voltage, 1.71 V to 3.6 V.
- Operating temperature range: −40 °C to +85 °C.
- Independent IO supply (1.8 V) and supply voltage compatible.
- Ultra-low-power mode consumption down to 2 μA
- I2C/SPI digital output interface.
- 16-bit data output
- 2 independent programmable interrupt generators for free-fall and motion detection
- Free-fall detection
- Motion detection
- Embedded 32 levels of 16-bit data output FIFO
- 10000 g high shock survivability
- Measurement range (selectable): ±2 g / ±4 g / ±8 g / ±16 g

I2C Logic Pins

- ·The I2C Address Jumper -- Bridge to use alternate address Ox18, otherwise leave open for Ox19. Leave open for SPI use.
- ·The I2C Pull-up Enable -- Closed by default, this connects a pull-up resistor between the I2C lines and VCC. This generally doesn't interfere with SPI operation, but, if less power consumption is required, carefully cut the copper traces.

Applications

- Motion activated functions
- Free-fall detection
- Display orientation
- Gaming and virtual reality input devices
- Impact recognition and logging
- Vibration monitoring and compensation