

## GENERAL DESCRIPTION

The MC3416 is a low-noise, integrated digital output 3-axis accelerometer with a feature set optimized for cell phones and consumer product motion sensing. Applications include user interface control, gaming motion input, electronic compass tilt compensation for cell phones, game controllers, remote controls and portable media products.

The MC3416 features a dedicated motion block which implements algorithms to support “any motion” and shake detection, tilt/flip and tilt 35 position detection.

Low noise and low power are inherent in the monolithic fabrication approach, where the MEMS accelerometer is integrated in a single-chip with the electronics integrated circuit.

In the MC3416 the internal sample rate can be set from 128 to 1024 samples / second. The device supports the reading of sample and event status via polling or interrupts.

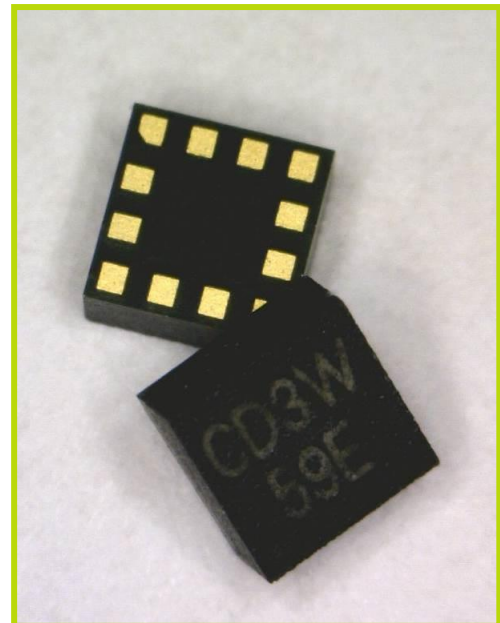
## FEATURES

### Range, Sampling & Power

- $\pm 2, \pm 4, \pm 8, \pm 12, \pm 16g$  range
- 16-bit resolution
- 128 to 1024 samples/sec
- 70 to 160  $\mu A$  typical active current

### Simple System Integration

- I2C interface, up to 1 MHz
- 2x2x0.92 mm 12-pin LGA package
  - Pin-compatible to Bosch BMA2xx
- Single-chip 3D silicon MEMS
- $< 200 \mu g / \sqrt{Hz}$  noise
- RoHS and “Green” compliant



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