BOSCH

A new dimension of acceleration

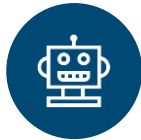## Easy-to-integrate accelerometer − BMA530

Stylish and minimalistic wearables offer little space for powerful components. The next-generation accelerometer with an advanced feature set is *world's smallest acceleration sensor* (1.2 x 0.8 x 0.55 mm³). It is especially designed for compact devices such as *wearables* and *toys* requiring less sensor size, especially lower height. BMA530 includes *integrated functionalities* like step-counter and generic interrupts for easy use.
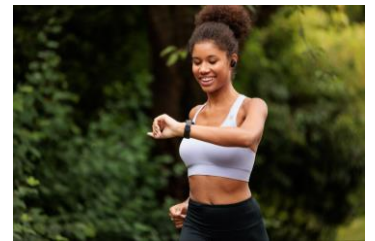
Target applications

Wearables

Toys & Gadgets

Laptops

Activity tracking

Benefits

Easy to assemble
High level of integrability into compact devices such as wearables and toys due to the smallest size on the market.

Integrated feature set
No upload of configuration files necessary through directly on the ASIC integrated functions, such as step counters and generic interrupts.

Gesture recognition

Highly flexible
Due to different power modes and automatic power mode switching, the sensor ensures high flexibility.

Freefall detection
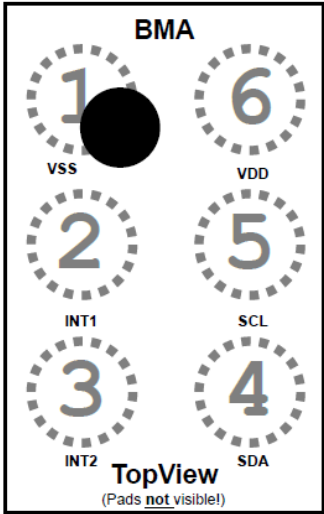
Technical features

BMA530 technical data

Package dimensions (typ.)	1.2 x 0.8 x 0.55 mm³ Wafer level chip scale package
Digital resolution	16 bit
Measurement ranges	±2, ±4, ±8, ±16 g
Output data rate	~1.56 Hz ... 6.4 kHz
Offset soldered, over life	±75 mg
TCO	±0.5 mg/K
Sensitivity Error	1%
Noise density	120 µg/$\sqrt{}$ Hz
Current consumption (high perf, continuous measurement)	125 µA
Current consumption (low power@ 100 Hz)	18 µA
Current consumption (suspend mode, data retention)	4.75 µA
Interface	I³C, I²C and SPI 2 Interrupt Pins (I²C, I³C) 1 Interrupt Pin (3-wire SPI)
Power modes	High perf. mode, Low power mode (LPM)
FIFO	1 KB (incl. FIFO full, FIFO watermark interrupt)
Interrupts	Data Ready interrupt 3 generic interrupts, incl. Any-/No-motion Step Counter Android Features

Pin configuration

Pin	Name	Description
1	VSS	Ground (VSS=GND=GNDIO)
2	INT1	Interrupt pin 1 (or Serial Data)
3	INT2	Interrupt pin 2 (or Chip Select for SPI)
4	SDA	Serial Data
5	SCL	Serial Clock
6	VDD	Power supply analog and digital domain and digital I/O 1.62V ... 3.63V (VDD=VDDIO)

Scan me for more product details!

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