

# A new dimension of acceleration

## Easy-to-integrate accelerometer – BMA530

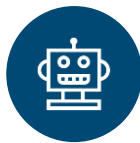
Stylish and minimalistic wearables offer little space for powerful components. The next-generation accelerometer with an advanced feature set is *world's smallest acceleration sensor* (1.2 x 0.8 x 0.55 mm<sup>3</sup>). It is especially designed for compact devices such as *wearables* and *toys* requiring less sensor size, especially lower height. BMA530 includes *integrated functionalities* like step-counter and generic interrupts for easy use.



### Target applications



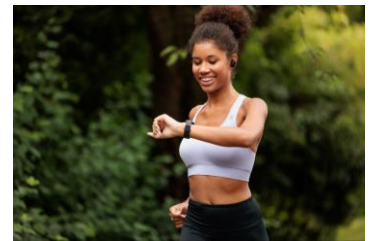
Wearables



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.

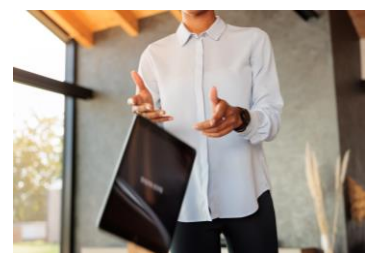


#### Highly flexible

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



**Gesture recognition**



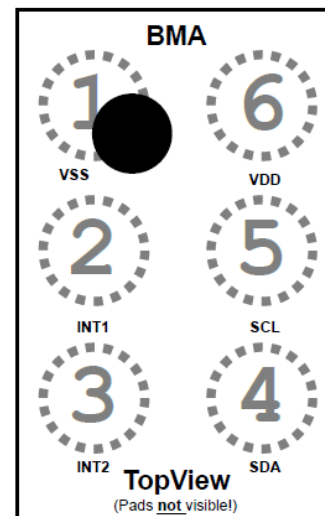
**Freefall detection**

# Technical features

## BMA530 technical data

Package dimensions (typ.)	1.2 x 0.8 x 0.55 mm <sup>3</sup> 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/√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	I <sup>3</sup> C, I <sup>2</sup> C and SPI 2 Interrupt Pins (I <sup>2</sup> C, I <sup>3</sup> C) 1 Interrupt Pin (3-wire SPI)
Power modes	High perf. mode, Low power mode (LPM) Self-wake-up: LPM to High perf. mode
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)



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