Micro Triple Axis Accelerometer Breakout (BMA400)

DFR0675-EN

Product Overview

1/18/2024

For the most up-to-date information, visit www.mouser.com or the supplier's website.

Description

The Micro Triple Axis Accelerometer Breakout (BMA400) from SparkFun offers a 3-axis acceleration sensor for ultra-low-power applications. The SparkFun breakout features an easy-to-use Micro Qwiic format. The device is an ultra-low power acceleration sensor perfect for wearable and smart home applications. The sensor distinguishes between critical situations and false signals by avoiding false alarms. The Qwiic system allows for integration into your I²C system with no soldering required.

The Bosch Sensortech© BMA400 sensor offers a full-scale acceleration range of ±2g/±4g/±8g/±16g with ultra-low current consumption of <14.5µA while operating at its peak performance settings. This sensor also includes a complete feature set for on-chip interrupts, including auto wakeup/low power, step counter, activity recognition, orientation detection, and tap/double taps.
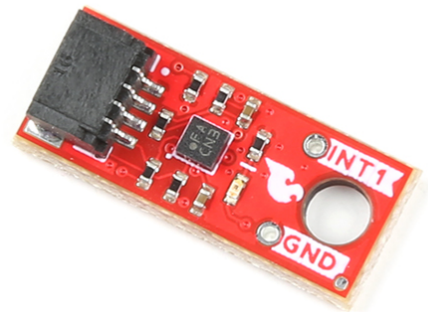
Features

- Qwiic micro-sized board (0.75" x 0.3"/19.05mm x 7.62mm)
- Supply voltage range:
  - 1.72V-3.6V
- Ultra-low current consumption:
  - <14.5µA at peak performance settings
- I²C interface (Qwiic-enabled)
- I²C addresses:
  - 0x14 (Default), 0x15
- Selectable acceleration ranges:
  - ±2/±4/±8/±16g
- 1x Horizontal Qwiic connection port

- On-chip interrupt features:
  - Auto-low power/auto wakeup
  - Step counter
  - Activity recognition (walking,runing, standing still)
  - Motion detection
  - Orientation detection
  - Tap/double tap
- Output data rate range:
  - 12.5Hz to 800Hz (normal mode)
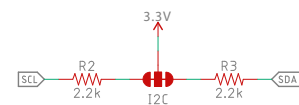 - 25Hz (low-power mode)
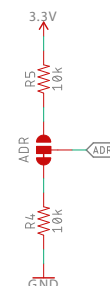
Closer Look
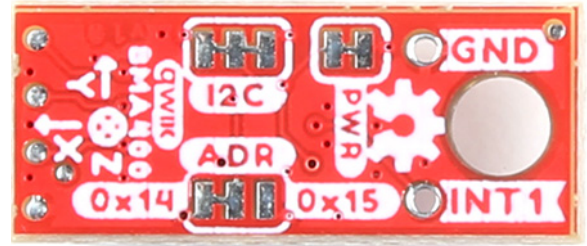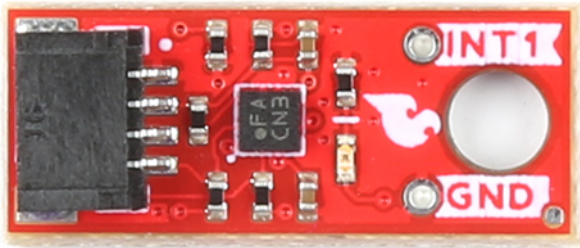
Schematic Diagram

Accelerometer — BMA400

Voltage Range
VDD: 1.72V – 3.6V
VDDIO: 1.2V – 3.6V
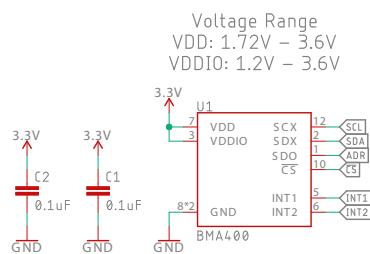
I2C Pullups

Cut traces to disconnect I2C pullup resistors

I2C Address Selection

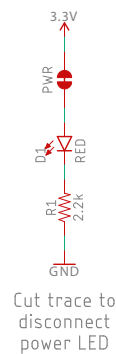| I2C Address	
3V3	0x15
GND	0x14 (Default)
Open	SPI

Connectors

PTH connectors only
accept 22AWG or smaller

Power LED
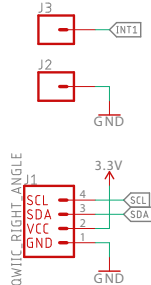
Cut trace to
disconnect
power LED
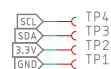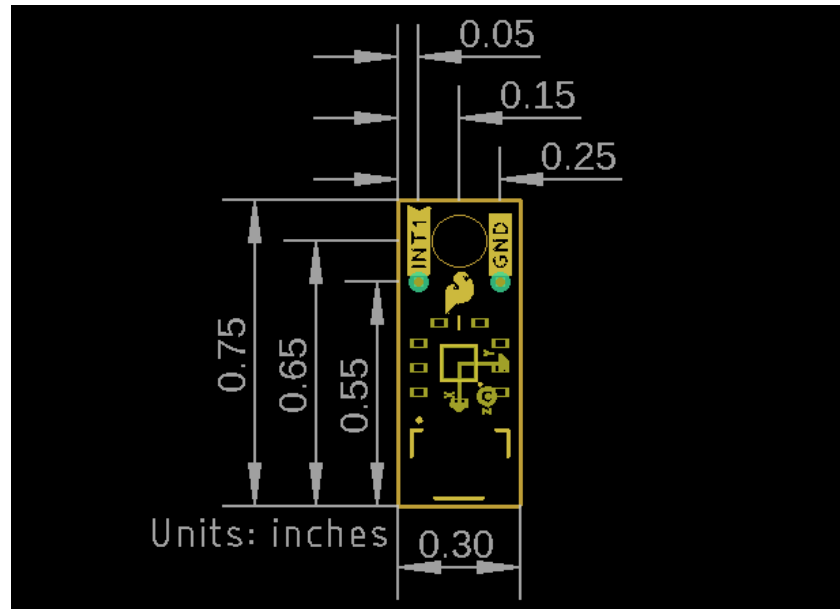
$\overline{CS}$ Pullup
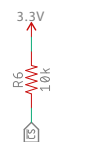
Test Points

Board Diamension

Learn More

- [Bosch BMA400 Triaxial Accelerometers](#)
- [BMA400 (Qwiic) Hookup Guide](#)

Mouser Part Number

[View Part](#)

To learn more, visit https://www.mouser.com/sparkfun-micro-triple-axis-breakout/