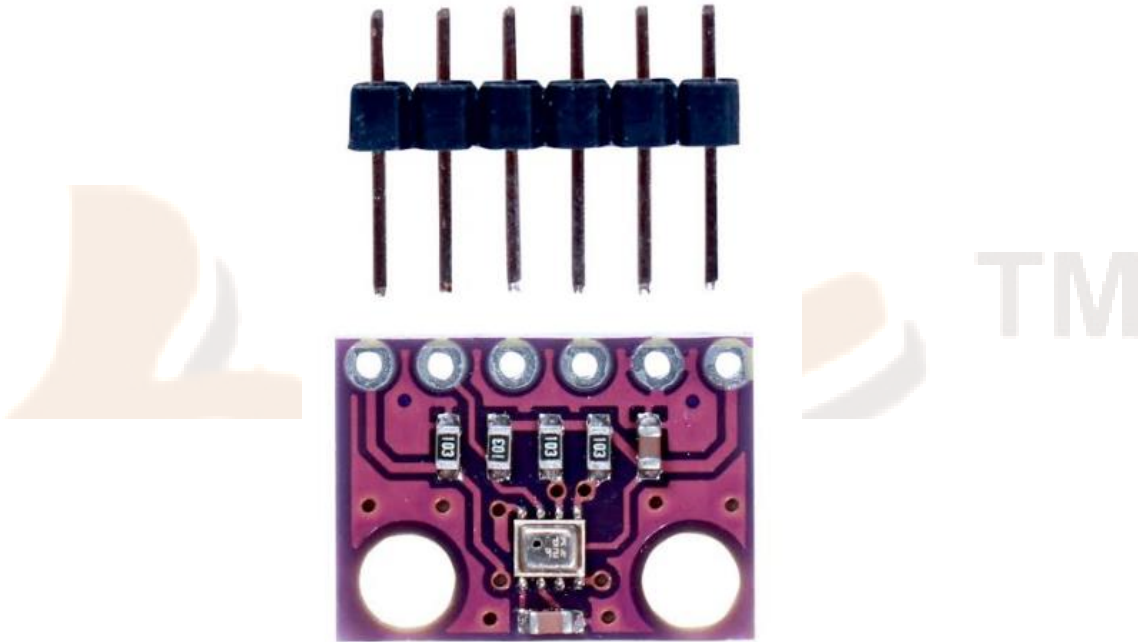


GY-BMP280-3.3 Pressure Sensor Module



BMP280 Barometric Pressure and Altitude Sensor I2C/SPI Module is a cheapest and tiny Atmospheric Sensor Breakout to measure barometric pressure, and temperature readings all without taking up too much space.

The BMP280 Breakout has been designed to be used in indoor/outdoor navigation, weather forecasting, home automation, and even personal health and wellness monitoring.

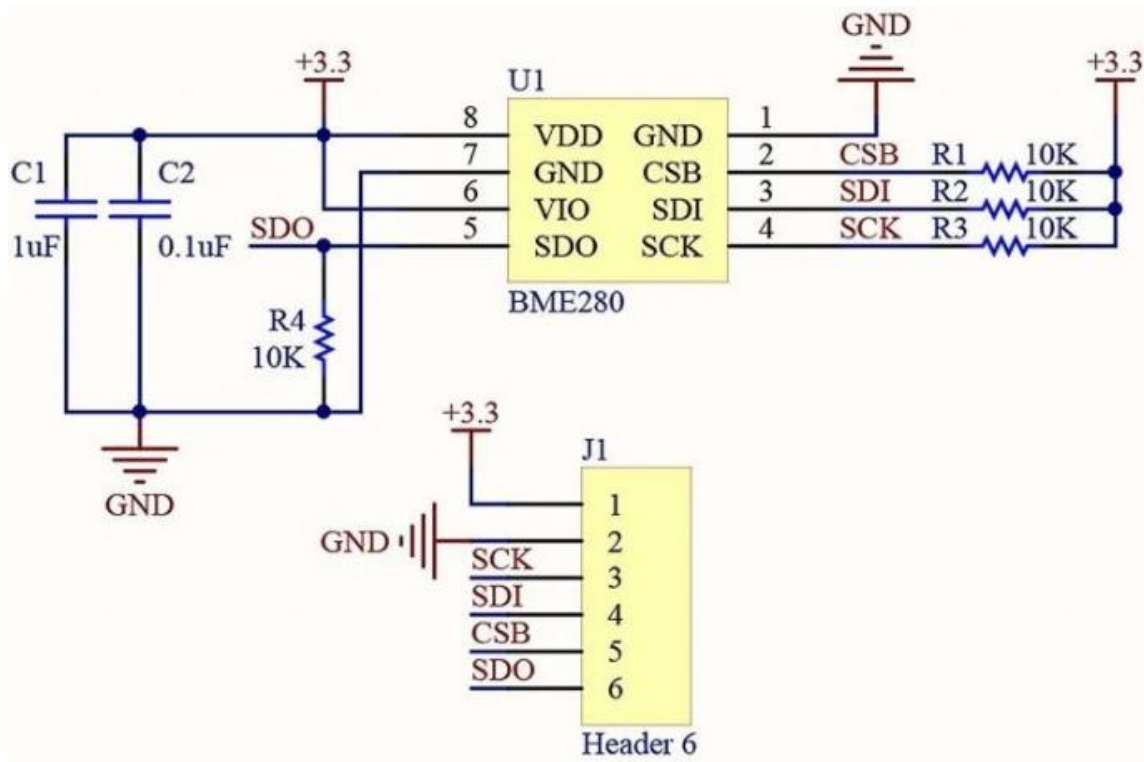
FEATURES:

- The GY-BMP280 module comes with BMP280 sensor, which is an environmental sensor with temperature, barometric pressure that is the next generation upgrade to the BMP085/BMP180/BMP183.
- This sensor is great for all sorts of weather sensing and can even be used in both I2C and SPI.
- This precision sensor is the best low-cost, precision sensing solution for measuring barometric pressure with ± 1 hPa absolute accuracy, and temperature with $\pm 1.0^{\circ}\text{C}$ accuracy. Because pressure changes with altitude and the pressure measurements are so good, you can also use it as an altimeter with ± 1 meter accuracy
- Pin pitch: 2.54mm
- Module size: 11.5mm*15mm

SPECIFICATIONS:

- Model: GY-BMP280-3.3
- Chip: BMP280
- Power supply: 3V/3.3V DC
- Peak current: 1.12mA
- Air pressure range : 300-1100hPa (equi. to +9000...-500m above sea level)
- Temperature range: -40 ... +85 °C
- Digital interfaces: I²C (up to 3.4 MHz) and SPI (3 and 4 wire, up to 10 MHz)
- Current consumption of sensor BMP280: 2.7µA @ 1 Hz sampling rate

SCHEMATIC DIAGRAM:



- The GY-BMP280 module operates from 3.3V so requires 3.3V power and must be driven with 3.3V logic levels. If needed to operate at 5V, it can be done using voltage regulator and level shifters as it doesn't contain one.

- It is typically recommended to operate it on 3.3V and maximum at 3.6VDC. The module GY-BMP280 module simply supports both I²C and SPI interfaces and comes with default I²C address of 0x76. The Chip Select (CSB) and Serial Data Output (SDO) pins of the BMP 280 are necessary only when SPI-based (four-wire) communication is applied. I2C is a two wire interface SDA SCK.
- Leave pin 6 of the module (SDO) unconnected to set the I²C address to 0x76 – the on-board resistor pulls the SDO pin low setting the address to 0x76.
- To change the I²C address to 0x77, connect pin 6 of the module (SDO) to Vcc which would typically be the 3.3V supply.
- Pin 5 of the module (CSB) must be connected to Vcc to select the I²C interface. This is already done by an on-board pull-up resistor, so pin 5 can be left disconnected when using the I²C interface.

PIN FUNCTION:

Pin No	Pin Name	Description
1	VCC	Power source of 3.3VDC
2	GND	ground
3	SCL	Serial Clock
4	SDA	Serial Data
5	CSB	CSB pin to GND to have SPI and to VCC(3.3V) for I2C. It's an input to the chip.
6	SDO	Serial Data Out / Master In Slave Out pin, for data sent from the BMP280 to your process

APPLICATIONS:

- Enhancement of GPS navigation (e.g. time-to-first-fix improvement, dead-reckoning, slope detection)
- Indoor navigation (floor detection, elevator detection)
- Outdoor navigation, leisure and sports applications
- Weather forecast, Home weather stations
- Health care application (e.g. sirometry)
- Vertical velocity indication (e.g. risk/sink speed)
- Handsets such as mobile phones, tablet PCs, GPS devices
- Flying toys
- Watches

PACKAGE INCLUDES:

1 x BMP280 Barometric Pressure and Altitude Sensor I2C/SPI Module.

1 x Header set (Without Soldered).