

Pressure Sensor ICs



## High Accuracy, Low Power, 10ATM Waterproof Barometric Pressure for Altimetry and Barometry Applications

### AS5205

#### ● General Description

The AS5205 is a 10ATM waterproof digital barometric pressure sensor especially designed for applications requiring highly-precision pressure measurement like quad-copter altitude control and portable navigation device. It is both a pressure and temperature sensor housed in a compact 3.55×3.55×1.45 mm<sup>3</sup> package. The pressure sensor is based on the industry-recognized piezo-resistive technology featuring long-term stability and EMC robustness. A high-performance 24-bit ADC provides pressure resolution up to 0.15Pa, and temperature resolution up to 0.10°C. The pressure sensor has a wide operating range from 300hPa to 1250hPa that covers all surface elevations on earth.

The AS5205 can detect absolute barometric pressure with highly accuracy for applications like quadcopter altitude control. The maximum altitude resolution can be up to less than 5cm. Several operation options further offer large window for user optimization on the power consumption, resolution and filter performance.

The device supports I2C compatible interface control. The interface operation voltage is from +1.8V to +3.6V, as well as programming additional registers on the device. The I<sup>2</sup>C address of AS5205 is **3Ah and 3Bh**, only when the master device initiates the correct address, AS5205 generates an acknowledge condition and works normal.

The device is a RoHs and Green compliant 10-pin LFBGA (3.55 × 3.55 × 1.45 mm<sup>3</sup>) outline dimension package.

#### ● Features

- Pressure Sensor with Water-resistant Package
- Potting Gel & Grounded Metal Cap
- Operation Range:
  - ✓ Pressure: 300 ~ 1250hPa (Absolute)
  - ✓ High Resolution: Built-in 24-bit ADC
  - ✓ Pressure Resolution up to 0.15Pa
  - ✓ Temperature Resolution up to 0.10°C
  - ✓ FIFO 576 bytes
  - ✓ Interrupt: Data Ready & FIFO Status
- Input Voltage Range:
  - ✓ VDD: 1.8V to 3.6V
  - ✓ VDDIO: 1.8V to 3.6V
- Digital Interface:
  - ✓ I2C: Standard and fast modes
- Less than 1.2uA Shut-Down Supply Current
- Small Solution Size
- RoHS and Green Compliant
- Space Saving 10-pin LFBGA (3.55 × 3.55 × 1.45 mm<sup>3</sup>) Packages
- -40°C to +85 °C Temperature Range

#### ● Applications

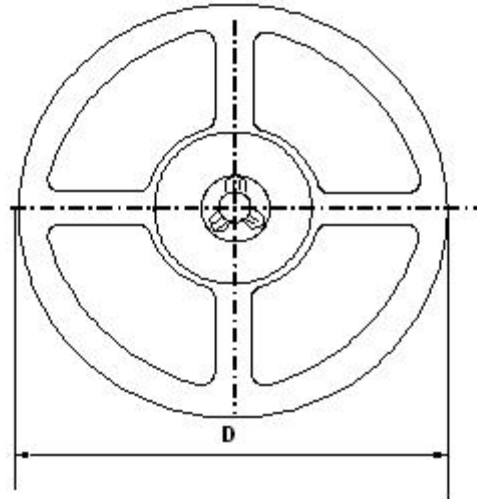
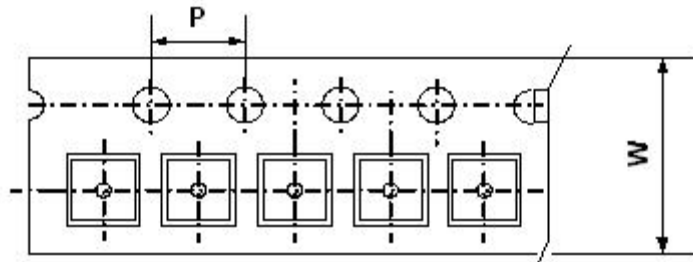
- Altimetry and Barometry
- Ascending/descending speed estimation
- Indoor-Navigation for Floor Elevator detection
- GPS applications
- Activity tracking for health care applications
- Weather Station Equipment
- Sport Watches & E-cigarettes
- Water Depth Monitoring & Gas Metering

#### ● Ordering Information

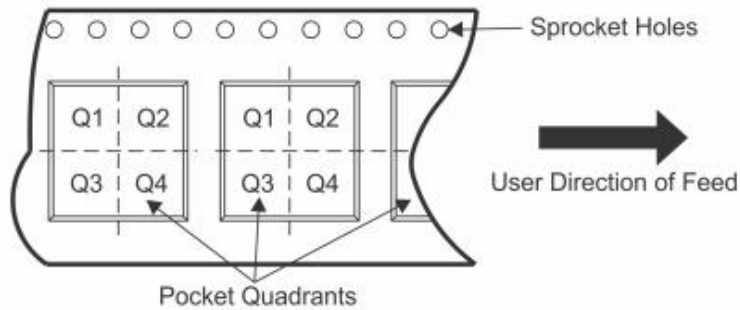


Part Number	Capability	Package Type	Package Qty	Temperature	Eco Plan
AS5205LBRN	300 ~ 1250hPa	10-pin LFBGA	13-in reel 3000pcs/reel	-40~85°C	Green

■ Packing Information



QUADRANT ASSIGNMENTS FOR PIN 1 ORIENTATION IN TAPE



Device	Package Type	SPQ	Carrier Width (W)	Pitch(P)	Reel Size(D)	Pin1 Quadrant
AS5205LBRN	10-pin LFBGA	3000pcs	12.0±0.1 mm	8.0±0.1 mm	330±1 mm	Q3