

Pressure Sensor ICs

Digital Barometric Pressure Sensor for Altimetry and Barometry Navigation Applications



AS5201

● General Description

The AS5201 is a 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 2.0×2.0×0.95 mm³ 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 AS5201 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 and SPI interface control. The interface operation voltage is from +1.8V to +3.6V, as well as programming additional registers on the device. The I²C address of AS5201 is **3Ah and 3Bh**, only when the master device initiates the correct address, AS5201 generates an acknowledge condition and works normal.

The device is a RoHS and Green compliant 10-pin LFBGA (2.0mm x 2.0mm x 0.85mm) outline dimension package.

● Features

- 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
 - ✓ SPI: 3-/4-wire, up to 10MHz clock
- Less than 1.2uA Shut-Down Supply Current
- Small Solution Size
- RoHS and Green Compliant
- Space Saving 10-pin LFBGA (2.0mm x 2.0mm x 0.85mm) Packages
- -40°C to +85 °C Temperature Range

● Applications

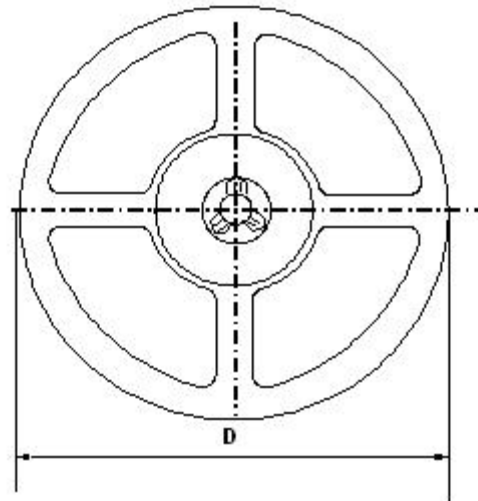
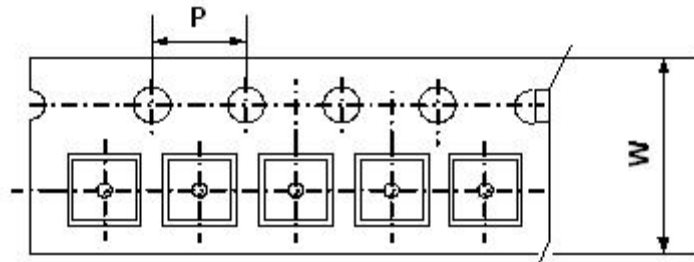
- Altimetry and Barometry
- Rise/fall speed estimation
- Ascending/descending speed estimation
- Indoor-Navigation for Floor Elevator detection
- GPS applications
- Activity tracking for health care applications

● Ordering Information

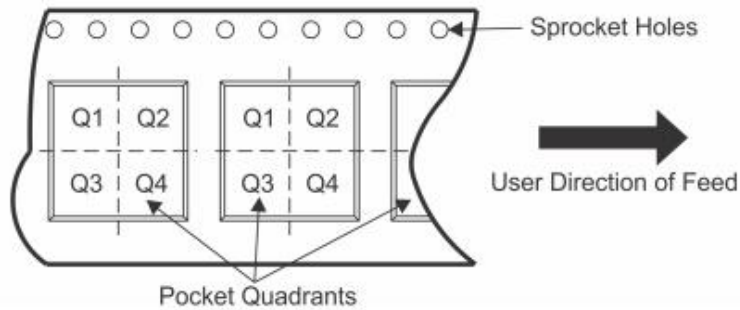


Part Number	Capability	Package Type	Package Qty	Temperature	Eco Plan
AS5201LBRN	300 ~ 1250hPa	10-pin LFBGA	13-in reel 4000pcs/reel	-40~85°C	Green

■ Packing Information



QUADRANT ASSIGNMENTS FOR PIN 1 ORIENTATION IN TAPE



Device	Package Type	SPQ	Carrier Width (W)	Pitch(P)	Reel Size(D)	Pin1 Quadrant
AS5201LBRN	10-pin LFBGA	4000pcs	12.0±0.1 mm	8.0±0.1 mm	330±1 mm	Q3