LPS25HB
High-robustness pressure sensor

MEMS pressure sensor: 260-1260 hPa absolute digital output barometer

STMicroelectronics LPS25HB pressure sensor integrates ST's consolidated pressure sensor's technology with the new fully molded package to further improve robustness, reliability and moisture resistance while reducing package thickness. With its ultra-low height of 0.76 mm, the LPS25HB offers high design flexibility and easy implementation into multi-functional applications: from smartphones, tablets and wearable technology such as sports watches, smart watches, fitness bands and Internet-of-Things (IoT) products.

APPLICATIONS

- Weather forecast
- Barometric altitude
- Ascent/descent detection
- Vertical speed indication
- Indoor navigation (floor detection)
- Enhanced GPS navigation

KEY FEATURES

- 260 to 1260 hPa digital output barometer
- Current consumption: 4 µA
- Selectable ODR from 1 Hz to 25 Hz
- SPI and I²C
- Embedded FIFO
- Supply voltage: 1.7 to 3.6 V

The LPS25HB is an ultra-thin piezo-resistive absolute pressure sensor.

It includes a monolithic sensing element and a mixed signal ASIC, able to take the information from the sensing element and to provide the measurement information through digital serial interfaces.

The sensing element, which detects absolute pressure, consists of a suspended membrane manufactured using a dedicated process developed by ST.

The device may be configured to generate interrupt events based on a threshold crossing, when a new set of data is available or based on FIFO status. The event is available on a register as well as on a dedicated pin.

FIGURE 1: LPS25HB BLOCK DIAGRAM
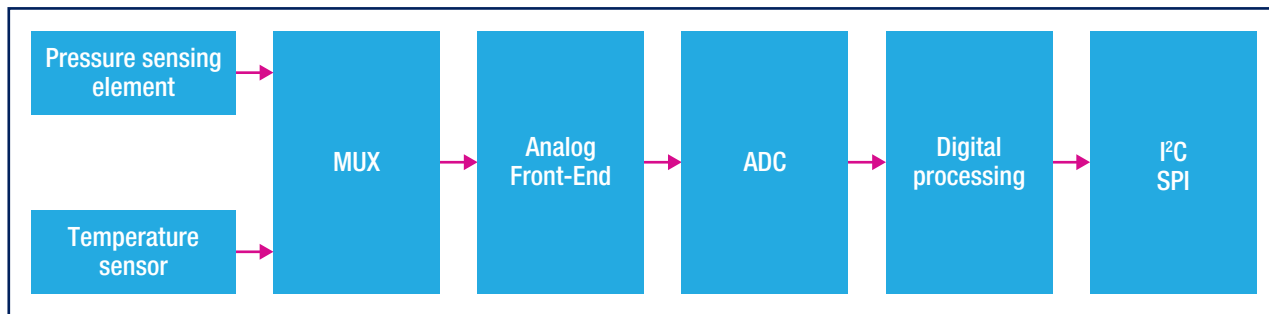
Order codes	Temperature range (°C)	Package	Size	Packing
LPS25HB, LPS25HBTR	-30 to +105	HLGA-10L	2.5 x 2.5 x 0.76 mm	Tray, Tape and reel

EVALUATION KITS

STEVAL-MKI109V2 (Motherboard)

STEVAL-MKI165V1 (Plug-in adapter with LPS25HB sensor).

Once the adapter is plugged in, the board can be connected to a host PC via USB so the device's capabilities can be easily evaluated via an intuitive graphic user interface.

X-NUCLEO-IKS01A1: MEMS & environmental sensors evaluation board based on STM32 microcontroller, Arduino UNO R3 compliant.

For further information go to www.st.com/pressure.

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