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STMicroelectronics Announced LPS001WP, Tiny Silicon Pressure Sensor with MEMS Technology

By pur, Wednesday, December 1st, 2010

Category: Measurement, Instrumentation, Sensor

STMicroelectronics (NYSE: STM), the world's leading supplier of MEMS sensors for consumer and portable announced the **LPS001WP**, the new **tiny silicon pressure sensor** that uses innovative **MEMS technology** to provide extremely accurate **pressure measurements**.

The new LPS001WP provides extremely high resolution measurements of pressure – and therefore also of altitude – in an ultra-compact and thin package ideal for use in smart phones, sports watches, and other portable equipment, as well as in weather stations and automotive and industrial applications.

The LPS001WP has an operating pressure range of 300 – 1100 millibar, corresponding to the atmospheric pressures between -750 and +9000m relative to sea level, and can detect pressure changes as small as 0.065millibar, corresponding to 80cm of altitude. The device is fabricated using a proprietary ST technology called “VENSENS” that allows the pressure sensor to be fabricated on a monolithic silicon chip. Manufacturing the device in this way eliminates wafer-to-wafer bonding and maximizes reliability.

The pressure sensor in the LPS001WP is based on a flexible silicon membrane formed above an air cavity with a controlled gap and defined pressure. The membrane is very small compared to traditional silicon micro-machined membranes and is protected from breakage by built-in mechanical stoppers. The membrane includes a piezoresistor, a tiny structure whose electrical resistance varies as the membrane flexes in response to changes in the external pressure. The change in resistance is monitored, thermally compensated, and converted to a digital value that can be read by the equipment's host processor using the industry-standard I2C or SPI communications protocols.

The LPS001WP will be available from December 2010 at a typical price of \$2.8 in 1000 quantities.

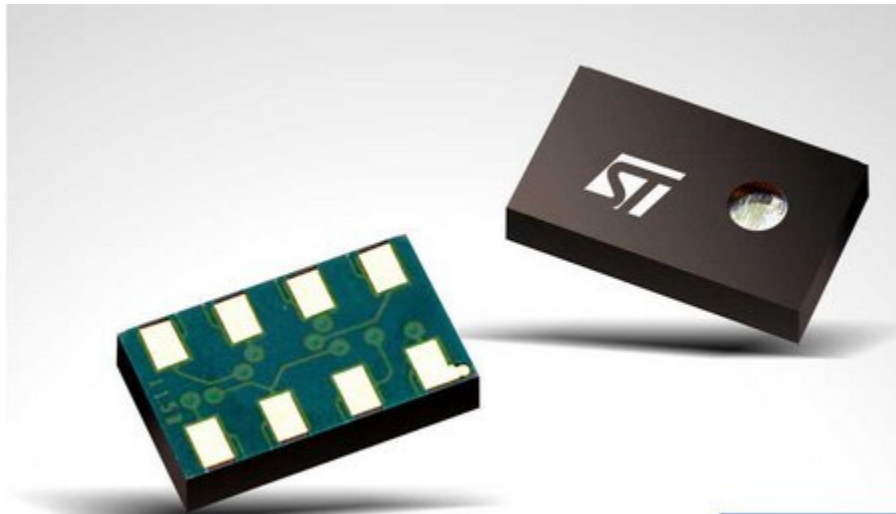
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LPS001WP - Tiny Silicon Pressure Sensor
(Photo from ST Website)

More information about **Silicon Pressure Sensor** can be found at [STMicroelectronics Website](#)



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