



## IT/CE CEATEC Comprehensive Exhibition, Tokyo: **The Newest Micro-Mechanical Pressure and Acceleration Sensors of Bosch Sensortec for Consumer Electronics** MEMS Measure Physical Inputs

September 2008  
PI 6442 BST Wü/Na

- ▶ Bosch Sensortec specifically addresses large purchasers in the consumer electronics mass markets with new sensors
- ▶ By the end of 2008, halogen-free housings, no emission of contaminants in production, use and disposal
- ▶ Live Demonstration Exhibits: the BMP085 pressure sensor and the BMA140/145 and BMA020/150 acceleration sensors

Tokyo - Bosch Sensortec demonstrates its newest micro-mechanical (MEMS) pressure and acceleration sensors for mobile consumer goods at CEATEC in Tokyo, the most important Japanese IT and Consumer Electronics Exhibition, in the Makuhari Messe Area, Booth 8K22, from Sept. 30 to Oct. 4, 2008. Live presentations every hour will demonstrate to the public the high applicability of these innovative components.

Bosch has already produced more than 800 million sensors for physical inputs, such as pressure, acceleration, rotational speed and temperature, making the firm the MEMS market leader worldwide. With its new products, Bosch Sensortec specifically addresses the demands of the consumer electronics markets in regards to technological, economical, environmental and also logistical needs. All sensors are ready to install, calibrated, and can be manufactured, even in extremely large order quantities, at consistently high quality levels and within the prescribed time limit. The sensors fulfill all requirements of the European RoHS Directive. By the end of the year, Bosch Sensortec will manufacture them halogen-free as a voluntary environmental protection measure. At that time, halogenated flame retardants, which can release dioxins when exposed to heat, will be replaced by safe materials. This will have no effect on the reliability and service life of the MEMS sensors.

A world record holder stands out among the exhibits: the smallest digital barometric pressure sensor in the world for consumer electronics, with housing dimensions of only 5 mm x 5 mm x 1.2 mm. The BMP085, offering 25 cm resolution and requiring a minimal 3  $\mu$ amps of operating current, can be installed as an altimeter, for example in a mobile telephone with navigational functions, in order to ensure highly accurate navigation through superimposed levels independent of GPS, e.g. in large train stations or shopping centers. The market researcher, Frost & Sullivan, recently acknowledged the development of this innovative sensor with their "2008 Global Award for Product Innovation".

Further exhibits include the new analog triaxial acceleration sensors from the BMA14X series: electrically identical in structure, these sensors are available in 0.9 mm ultraflat, miniature LGA packages, either with 12 pins and a 3 mm edge length (BMA140), or with 16 pins and a 4 mm edge length (BMA145). Both sensors detect inclination, motion, shock and vibration within a measuring range of  $\pm 4$  g; the overload range extends up to 10,000 g.

The digital, triaxial acceleration sensor BMA020 is just as small as the BMA140 analog model. The BMA020 operates external evaluation circuits with a high measurement resolution of 10 bits using the integrated SPI and I<sup>2</sup>C serial interfaces. This sensor's measurement range can be programmed based on need to values ranging from  $\pm 2$  g to  $\pm 8$  g. The BMA020 is pin-compatible with its brother, the BMA150, which targets more precise applications in which a zero g offset, for example, is just as important as having a temperature sensor with a measurement range from -30° to 97.5°C integrated into the acceleration sensor.

### **About Bosch Sensortec**

Bosch Sensortec GmbH, a 100 percent subsidiary of Robert Bosch GmbH, offers micromechanical sensors, application and foundry services for consumer electronics, security systems and logistics. Its product portfolio to date includes triaxial acceleration sensors as well as pressure sensors. The company was founded in early 2005 and is headquartered near Reutlingen to the south of Stuttgart (Germany). For more information about Bosch Sensortec, visit [www.bosch-sensortec.com](http://www.bosch-sensortec.com).

Bosch has been active in the field of MEMS since 1988, being one of the pioneers in this technology. Today, hundreds of engineers of the Bosch Group work in the field of MEMS. A wide selection of products – from pressure and acceleration sensors to yaw-rate sensors – is manufactured for the automotive industry. Annual production at Bosch is more than 160 million sensors.

**Press photos:** 1-RB-14722, 1-BST-14724, 1-UBI-14717

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*The Bosch Group is a leading global supplier of technology and services. In the areas of automotive and industrial technology, consumer goods, and building technology, some 271,000 associates generated sales of 46.3 billion euros in fiscal 2007. The Bosch Group comprises Robert Bosch GmbH and its more than 300 subsidiaries and regional companies in roughly 50 countries. This worldwide development, manufacturing, and sales network is the foundation for further growth. Each year, Bosch spends more than 3 billion euros for research and development, and applies for over 3,000 patents worldwide. The company was set up in Stuttgart in 1886 by Robert Bosch (1861-1942) as “Workshop for Precision Mechanics and Electrical Engineering.”*

*The special ownership structure of Robert Bosch GmbH guarantees the entrepreneurial freedom of the Bosch Group, making it possible for the company to plan over the long term and to undertake significant up-front investments in the safeguarding of its future. Ninety-two percent of the share capital of Robert Bosch GmbH is held by Robert Bosch Stiftung GmbH, a charitable foundation. The majority of voting rights are held by Robert Bosch Industrietreuhand KG, an industrial trust. The entrepreneurial ownership functions are carried out by the trust. The remaining shares are held by the Bosch family and by Robert Bosch GmbH.*

*Additional information can be accessed at [www.bosch.com](http://www.bosch.com).*