

Bosch MEMS sensors now enable faster airbag deployment

New high-G acceleration sensors increase driver and passenger safety

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- ▶ MEMS sensors improve driver and passenger safety in motor vehicles
- ▶ Accurate signal detection with faster signal processing thanks to a doubled bandwidth
- ▶ Large number of packaging and installation options provide greater flexibility
- ▶ Improved frontal, side and rollover crash detection

Munich and Reutlingen, Germany – Precision meets speed. At electronica, the world's leading trade fair for electronics, Bosch announces a new generation of high-g acceleration sensors. The SMA7xy sensor family improves safety for car drivers and passengers. When the acceleration sensors detect a collision, the passive safety systems such as airbags can now be deployed earlier, and the restraining effect can be precisely set for the given accident scenario. In this way, the consequences of accidents can be further mitigated. The new SMA7xy family comprises of multiple sensors for airbag systems based on Bosch's market leading MEMS technology.

Universally applicable, very fast crash sensors

The sensors from the new SMA7xy product family enable extremely fast signal processing. Compared to the sensors of the preceding generation, Bosch has doubled the bandwidth, and thereby increased crash signal processing speeds by one hundred percent. The acceleration sensors are located either directly in the airbag ECU or in satellites located at the A- B- or C-pillar or at the front bumper. The sensors detect impact or a car rollover event within fractions of a second and send this information to the airbag ECU, which then deploys the vehicle's passive safety systems in time.

One of the sensors from the SMA7xy family, the SMA760 precisely detects front and side impacts. A second sensor, the SMA720 contains one x and one z

channel to measure acceleration along the vertical axis. This makes the SMA720 an ideal companion to the SMI860 for vehicle rollover detection. Both sensors support the SafeSPI communication interface standard.

All sensors from the SMA7xy family conform to the ASIL D safety level of ISO 26262 and meet the VDA AK-LV27 specification. The PSI5 sensor versions, designed specifically for use along the periphery, offer a wide acceleration range: 30g, 60g, 120g, 240g, or 480g. For improved design flexibility Bosch offers a number of variants, for example an upright face mount option with a smaller footprint.

Flexible options providing design freedom

The peripheral-type sensors of the SMA7xy family are available in many variants, with two package options, four sensor axis configurations, several measurement range options and well over 80 different PSI5 modes – there is a suitable sensor to meet every requirement. One package option is the SOIC8, a well-established housing that is widely used and exceptionally robust, whilst the LGA System-in-package (SiP) houses integrated passive components.

Press photos: #1486998, #1487000

Further information: www.bosch-semiconductors.com

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BOSCH AT ELECTRONICA 2018 IN MUNICH

- **BOOTH: Tuesday to Friday, November 13–16, 2018**, booth 522 in hall C3
- **FOLLOW** the Bosch electronica 2018 highlights on Twitter: **#BoschMEMS**
- **PANELS WITH BOSCH EXPERTS:**
 - **Monday, November 12, 12:30 p.m.:** presentation “Sensors enabling future mobility solutions” by Dr. Markus Sonnemann, Vice President Pre-Development MEMS sensors at Robert Bosch GmbH, electronica Automotive Conference at ICM Munich
 - **Tuesday, November 13, 11:30 a.m.:** presentation “MEMS – one product one process?” by Dr. Udo-Martin Gómez, Senior Vice President MEMS sensors, Robert Bosch GmbH, SEMICON Europe, Fab Management Forum at ICM Munich in room 14c

- **Tuesday, November 13, 3:00 p.m.:** Automobilwoche panel discussion “electronica Talk from the Top” with Jens Fabrowsky, Executive Vice President Automotive Electronics at Robert Bosch GmbH, discovery stage in hall C6
- **Tuesday, November 13, 3:30 p.m.:** presentation “MEMS Mobility Sensors for motion detection” by Michael Rupp, Senior Expert Product Management Sensors at Robert Bosch GmbH, electronica Automotive Forum in hall B4
- **Wednesday, November 14, 3:40 p.m.:** presentation “The future of MEMS-based smart sensor nodes in the context of highly functional and ultra-low power IoT applications” by Dr. Ralf Schellin, Head of Product Area MEMS at Bosch Sensortec GmbH, International Congress Center (ICC)

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