Micronas set to enlarge its 3D Hall sensor family

One focus in Micronas’ product development is the enlargement of its sensor families HAL 36xy for detecting angles of rotation and HAL 38xy for detecting linear motions based on the 3D HAL technologies.

**Freiburg, December 21, 2011** – Micronas (SIX Swiss Exchange: MASN), a leading supplier of cutting-edge sensor and IC system solutions for automotive and industrial electronics, invests in the development of new sensors of the HAL 36xy and HAL 38xy families and so enlarges its product portfolio in the field of multi-dimensional magnetic field detection.

Unlike standard magnet field measurements which only capture and detect magnetic fields whose field lines run orthogonally to the chip surface, the HAL 36xy and HAL 38xy sensor families with their additional vertical Hall boards also detect magnetic field components of the magnetic field running parallel to the surface. The vertical Hall boards have the advantage that they can be made using a standard CMOS process without additional post-processing and that they are not influencing the magnetic field itself.

The members of the Hall sensor families based on 3D Hall technology all feature temperature-compensated Hall boards with cycled offset compensation, A/D transformers, digital signal processing, a push-pull output, an EEPROM with redundant memory cells and write protection for the calibration data and the data registry information, a digital programming interface as well as additional switching components realizing diagnosis functions and so enhancing the safety of the aggregate system such as temperature and voltage monitoring (under and overvoltage), open-circuit detection and overload protection in all connections. Additional functions such as an EEPROM self-test during system start can be activated by the customer.

The sensors of the HAL 36xy family detect the magnetic field components in the X and Y level in three-dimensional space. Measuring the relative field strength of both components guarantees a stable output signal even if the space between magnet and sensor varies. The result is a highly precise angular measurement between 0° and 360°, working reliably across a wide temperature range. The HAL 3625 is, for instance, suitable for applications involving non-contacting potentiometers or for determining the position in rotary movements, and therefore features an analogue output signal with 12 bit resolution.

Within the HAL 38xy family, the HAL 3855 module is capable of detecting the magnetic field strength at the Y and Z level. 32 backing points lend this sensor family ultimate accuracy in linear motion measurements with minimum space requirement. The HAL 3855 is, for example, suitable for detecting the throttle position in exhaust gas recirculation (EGR) in cars and also features an analogue output signal with 12 bit resolution.

Micronas currently develops various sensor variants based on the 3D HAL technology by way of an extension to the HAL 36xy und HAL 38xy families. These will include sensors with digital output, with design variants relying on various combination options involving the Hall boards (X, Y and Z level) also being under development.

With the extremely broad temperature range of Tj = -40°C to +170°C (junction temperature), many new application options in the automobile and industrial electronics industry open up for the derivatives of the HAL 36xy and HAL 38xy sensor families, among these the detection of throttle positions with angles greater than 90° or in the measurement of linear movements with distances of as much as 40 mm.

The HAL 3855 and HAL 3625 sensors are so far available in the exceedingly small SMD enclosure SOIC8. This is also an area where Micronas has plans for future expansion.

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**About Micronas**

Micronas (SIX Swiss Exchange: MASN), a semiconductor designer and manufacturer with worldwide operations, is a leading supplier of cutting-edge sensor and IC system solutions for automotive and industrial electronics. Micronas offers a wide range of Hall-effect sensors and embedded microcontrollers for automotive and industrial applications, for instance in drive trains, chassis frames, engine management and in convenience functions.

Micronas serves all major automotive electronics customers worldwide, many of them in continuous partnerships seeking joint success. While the holding company is headquartered in Zurich (Switzerland), operational headquarters are based in Freiburg (Germany). Currently, the Micronas Group employs around 900 people. For more information about Micronas and its products, please visit [www.micronas.com](http://www.micronas.com).