

Press Information No. 1501_E

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New HAR 24xy Dual-Die sensor family from Micronas brings in-package redundancy to Linear Hall-effect sensors

The new sensor family integrates two fully automotive qualified dies in a very thin package providing robust redundant measurements and enabling smaller magnet designs for safety critical applications.

Freiburg, February 3, 2015 – Micronas today announces its first Linear Hall-effect sensor family HAR 24xy, integrating two fully automotive qualified dies in a thinner than 1 mm TSSOP14 package for high-precision redundant measurements and smaller magnet designs. The first members HAR 2425 and HAR 2455 are designed to match the performance, diagnostic and safety requirements of most demanding automotive and industrial applications and will be presented to the public from February 24 to 26, 2015, at Embedded World (Nuremberg, Germany) at hall 4A, booth 500. First samples are available in May 2015. Start of production is planned for the second half of the year.

The new sensor family particularly suits automotive applications, such as throttle position measurement, pedal position detection and exhaust gas recirculation (EGR) but can be used also for current measurement and every kind of position detection or as an alternative to contactless potentiometers. For these applications, the very thin TSSOP14 package brings several benefits: It perfectly fits into space-demanding applications with reduced air gap. The very small distance between the hall plates of the dies significantly improves the correlation between the two output signals. The resulting improved sensitivity of the sensor enables a much smaller magnet design. Furthermore, the magnet is located closer to the sensor's active area which makes the overall design less sensitive to stray parasitic fields. "This integration of two dies brings true system redundancy at the supply and output levels while offering the best features of our proven HAL 24xy Linear Hall-sensor family, for example its high immunity against temperature variations or its design flexibility", says Dirk Behrens, Vice President Automotive at Micronas. "The HAR 24xy family members enable our automotive customers extremely robust sensor solutions with redundant capabilities allowing at the same time to significantly reduce their system costs."

The sensor's high accuracy is based on a sophisticated 16-bit signal path with an integrated digital signal core delivering a ratiometric 12-bit analog (HAR 2425) or up to 2 kHz PWM (HAR 2455) output signal. Both versions include an output linearization compensation function using 16 programmable set points to correct magnet linearity errors or to increase distance measurements. Enhanced detection functions and error diagnostic coverage offer numerous capabilities including wire break detection and thermal supervision in the case of over-current or short circuit events. When an over-temperature between two sensor outputs is detected, different modes can be defined as to how the device reports the failure - with output set to ground, supply or tristate configuration. Furthermore, during normal operation the whole

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sensor signal path and the memory map are supervised by a continuous self-test of various circuit blocks.

To ease design and production activities there is a development board available together with LabView™ based programming software. For product documentation, IC samples and programming boards, please contact Micronas' sales offices or one of its distribution partners listed on www.micronas.com/sales.

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About Micronas

Micronas (SIX Swiss Exchange: MASN), the most preferred partner for sensing and control serves all major automotive electronics customers worldwide, many of them in long-term partnerships for lasting success. While the holding company is headquartered in Zurich (Switzerland), operational headquarters are based in Freiburg (Germany). Currently, the Micronas Group employs around 900 persons. For more information about Micronas and its products, please visit www.micronas.com.

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