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Embedded World 2016

Most Preferred Partner for Sensing and Control

Dual-Die Hall sensors from Micronas combine multidimensional measurement with in-package redundancy



- The new dual-die HAR 37xy Hall-effect sensors are well suited for angle measurement, as well as for linear position detection in automotive and industrial applications and operate in a junction temperature range from -40°C to 170°C .
- They can be employed within gearboxes for clutch position detection, in ride-height modules, as well as within many more applications, e.g. motor air management, such as EGR (Exhaust Gas Recirculation), throttle position, or turbo charger actuators.
- The key for excellent angular performance is the ability to evaluate the relative strength out of the horizontal and vertical magnetic field components. The HAR 37xy sensors use a so-called pixel cell, which consists of one horizontal (BZ) and two vertical (BX, BY) Hall elements.

Micronas welcomes Mouser Electronics as worldwide distribution partner

- Micronas signed a global distribution agreement with Mouser Electronics, a worldwide leading authorized distributor of semiconductors and electronic components.
- As one of the most successful e-commerce distributors, Mouser has excellent logistic capabilities with the fast ability to deliver its products globally.

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Micronas and Digi-Key Electronics sign Global Distribution Agreement



- Micronas and Digi-Key Electronics, the industry leader in electronic component selection, availability and delivery, announce a global distribution partnership.
- Due to the large product portfolio of Digi-Key design engineers get access to Micronas products and technical information during the project phase.
- Digi-Key has a world class logistics service that can deliver these products globally within 48 hours.

Micronas honored with “Global Cooperation Award” by Denso Corporation

- Micronas was recognized for its remarkable support, reliable delivery and outstanding cooperation regarding Denso’s recently started overseas operations.
- The company was honoured for its multi-area contribution to Denso’s global business expansion.

Micronas unveils HVC 4223F for scaled up functionality in small electric drives



- Due to its integrated power bridges, the HVC 4223F comes up with an unprecedented level of integration and flexibility for the direct drive of BLDC, BDC and stepper motors.
- Packed into one single device with a footprint four times smaller than a stamp.
- The HVC4223F suits for applications such as HVAC flaps, active grille shutters, pumps, air cooling fans, mechanical actuators in bending lights, and many, many more
- Developed in a mixed-signal High-Voltage (HV) CMOS technology, the integration level of the HVC 4223F is unique in its kind.

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Rutronik and Micronas establish worldwide partnership



- Micronas GmbH and Rutronik Elektronische Bauelemente GmbH expand their partnership.
- Effective immediately, Rutronik is a worldwide franchise partner of Micronas. The global franchise covers the entire Micronas Hall-effect sensor and embedded motor controller product ranges.
- Rutronik has already been a Micronas distribution partner for 15 years.

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.
- The very thin package provides robust redundant measurements and enabling smaller magnet designs for safety critical applications.
- 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.
- The new sensor family particularly suits automotive applications, such as throttle position measurement, pedal position detection and exhaust gas recirculation (EGR).

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Micronas' first ISO 26262 compliant, low-power Hall switch family in SOT23 package very well accepted in the market



- In order to fulfil the enhanced functional safety criteria of the automotive industry Micronas has developed the first and currently only available ISO 26262 compliant Hall switch family HAL 15xy for the automotive.
- The company produced its first Hall switch back in 1993 and since then has been supplying the automotive market with more than 1.5 billion switches for a very wide variety of applications.
- The new switch family is first on the market fulfilling the ever evolving safety criteria in the automotive business with regard to functional and process monitoring.

Micronas' new all-in-one controller family brings more flexibility for driving small electric motors



- Highly integrated and efficient solutions with small footprint enable the flexible drive of either brush-type (BDC), brushless (BLDC) or stepper motors.
- Customers can significantly reduce their cost of ownership, as a single device can be used for several different motor control applications.
- The use of an industry standard core and a state-of-the-art development tool-chain combined with Micronas' demonstration software and application notes guarantees an efficient implementation of the customers' production software – gaining fast time to market.
- The new controller family enable a much more efficient control of the various electric motors, important space savings and thus an overall system weight reduction, which at the end leads to lower fuel consumptions and lower emissions.

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Micronas presents smallest integrated capacitor EMC-proof linear Hall sensor



- The HAC 830 combines the precise and robust functionality of the HAL 83x family with decoupling capacitors integrated into a tiny 3-pin TO92UP package.
- Thanks to the two 100 nF integrated capacitors, this sensor achieves an ESD level up to 8 kV and meets all stringent EMC requirements.
- Due to its TO92UP package, the HAC 830 is the smallest sensor with integrated capacitors on the market thus offering much more design flexibility where space requirements are essential criteria.
- The TO92UP can be welded or soldered directly to a leadframe, a connector or a terminal, eliminating the need for a printed circuit board (PCB), thus reducing the total system size and cost.

Brushless DC motor control solutions by Micronas migrating towards 0.18 micrometer high-voltage embedded flash CMOS process



- XH018 is X-FAB's 0.18 μm modular mixed signal high-voltage (HV) CMOS technology.
- Based upon the single poly 0.18 μm process with up to six metal layers, with integrated high-voltage and Non-Volatile-Memory (NVM) modules, the XH018 technology is ideal for System-on-Chip (SoC) solutions.
- XH018 aims at both the automotive and the high-voltage industrial markets as targeted by Micronas embedded controller solutions.
- Micronas' embedded controllers are single-chip, high-voltage controllers with flexible peripherals and direct motor driving capabilities.
- Smart actuator system solutions are used in various applications, like DC motor drives with integrated electronics, fans and pumps.

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Advanced 3D HAL[®] technology powers Micronas' new sensor generation leading to superior angular accuracy



- HAL 37xy offers outstanding temperature stability, high resistance against air gap variations and magnet aging together with a wide-range of diagnostic functions and very effective protection circuitry.
- The HAL 37xy family consists of the following members: HAL 372x featuring a ratiometric analog output and the HAL 373x with PWM and SENT output according SAE-J2716 release 2010.
- Possible applications are clutch position detection in gearboxes or in ride-height applications. Further suitable applications are motor air management, such as EGR (Exhaust Gas Recirculation) or throttle position or turbo charger actuators.
- In the industrial area, the devices can be used in various applications e.g. in joysticks or as valve position sensor for automation control.

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