

Press Information No. 1505_E

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

The first member of Micronas' second generation of embedded motor controllers comes up with a unique integration level and unprecedented flexibility

Freiburg, May 12, 2015 – Micronas announces today the first member of its new generation of embedded motor controllers HVC 4223F. The device is a key enabler for the design of efficient, compact and cost-effective electric motor applications not only in vehicles, but also in the industrial environment. 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. Engineering samples of the HVC 4223F are available as of today.

The number of electric motors in a vehicle continues to increase and Automotive customers are paying more and more attention to the implementation of smart electronic actuators. Micronas provides an Automotive qualified all-in-one device for the efficient control of various electric motors. It enables the design of very small, efficient, silent and cost-efficient actuator solutions for applications such as HVAC flaps, active grille shutters, pumps, air cooling fans, mechanical actuators in bending lights, and many, many more. "The small footprint of the only 6x6 mm leadless QFN40 package with a minimum of additional external components required as well as the low software invest reduces the cost-of-ownership for Micronas' customers significantly", says Dirk Behrens, Vice President Automotive at Micronas. "Together with its industry standard ARM Cortex-M3™ core and state-of-the-art development toolchain, the new motor controller device guarantees the efficient implementation of the customers' automotive qualified production software enabling a fast time to market."

Developed in a mixed-signal High-Voltage (HV) CMOS technology, the integration level of the HVC 4223F is unique in its kind. The various integrated digital and analog components include comparators with virtual star point reference, diagnosis and protection functions, programmable gain amplifier, A/D converter, embedded voltage regulators with up to 40 V load dump, as well as six identical half bridges to drive high currents. The HVC 4223F is designed to be directly connected to the motor windings without the need for external MOSFETs and furthermore can be directly supplied by the 12 V board net without the need for external voltage regulators. The internal LIN transceiver allows the direct connection to the LIN bus. On top, the ARM Cortex-M3 core facilitates the implementation of complex motor commutation schemes for an optimized size-torque ratio of the motor. This enables Micronas' customers the compact design of complex motor control applications.

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Micronas presents the HVC 4223F from May 19-21 at the Sensor+Test exhibition in Nuremberg, Germany, at booth 302 in hall 12.

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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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