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Industry's Largest Family of Inductive Position Sensors Now Includes Solution for ISO 26262-Compliant EV Motor Control Applications

Microchip expects its LX34070 IC to help accelerate the global move away from expensive and less accurate magnet-based solutions for safety-critical EV motor position monitoring

CHANDLER, Ariz., June 15, 2022 (GLOBE NEWSWIRE) -- Developers of motor control systems are rapidly replacing Hall Effect position sensors and older magnetic resolver solutions with inductive alternatives that eliminate expensive magnets and other heavy transformer-based structures so they can be integrated onto simple, compact printed circuit boards (PCBs). Extending the world's broadest line of inductive position sensors into the EV motor control market, Microchip Technology Inc. **(Nasdaq: MCHP)** announces the **LX34070 IC** that has been purpose-built for EV motor control applications. It includes differential outputs, fast sample rates and features that make it functional-safety-ready for ISO 26262 compliance in the Automotive Safety Integrity Level–C (ASIL–C) classification.

"The LX34070 inductive position sensor enables lighter, smaller, more reliable motor control solutions that meet stringent safety requirements, reduce overall system costs, and can operate seamlessly and precisely in the noisy environment of an automobile's DC motors, high currents and solenoids," said Fanie Duvenhage, vice president of Microchip's mixed signal and linear analog business unit. "Designers can use the LX34070 to further streamline EV motor control designs by pairing it with other functional-safety-ready Microchip devices including our 8-bit AVR® and PIC® microcontrollers, our 32-bit microcontrollers, and our dsPIC® digital signal controllers."

The LX34070 inductive position sensor solution offers numerous advantages compared to magnetic resolvers and Linear Voltage Differential Transducers (LVDTs), at a fraction of the cost. By using PCB traces rather than transformer-based magnetic windings and coil structures, the LX34070 device has negligible size and mass compared to alternatives that weigh as much as a pound. Accuracy is improved since the LX34070 does not depend on magnet strength, and the device improves robustness by actively rejecting stray magnetic fields. These and other features give designers greater flexibility over where they can place the thin, lightweight PCB-based LX34070 solution in their EV motor control designs.

PCB-based inductive position sensors use a primary coil to generate an AC magnetic field that couples with two secondary coils. A small metal target object disturbs the magnetic field so that each secondary coil receives a different voltage whose ratio is used to calculate absolute position. Using these techniques, Microchip introduced its first high-volume inductive sensor for automotive and industrial applications over a decade ago and has many

programs in volume production. The LX34070 now brings the same proven PCB materials, approaches and simplified, low-cost packaging to EV motor control and other applications that need its high-speed and low-latency benefits.

Availability

Microchip's LX34070 inductive position sensor IC is available today. To purchase, contact a Microchip sales representative, authorized worldwide distributor or visit Microchip's Purchasing and Client Services website, **www.microchipdirect.com**. For additional information, contact a Microchip sales representative, authorized worldwide distributor or visit Microchip's **website**.

Supporting Designers Through ISO 26262 Certification

Microchip works closely with automotive OEMs and suppliers to support their ISO 26262 compliance needs. The company's functional safety packages give them what they need at various stages of the evaluation and design cycle, including certified safety manuals, Failure Mode Effect and Diagnostics Analysis (FMEDA) reports and, in some cases, diagnostic software such as certified self-test libraries for relevant ASILs. The company also practices customer-driven obsolescence, with Microchip continuing to supply devices as long as there is demand and all components are available, removing the risk of a forced redesign because a part may unexpectedly enter end-of-life (EOL).

Resources

- Application Image: **www.flickr.com/photos/microchiptechnology/52115367210/sizes/l**

About Microchip Technology

Microchip Technology Inc. is a leading provider of smart, connected and secure embedded control solutions. Its easy-to-use development tools and comprehensive product portfolio enable customers to create optimal designs which reduce risk while lowering total system cost and time to market. The company's solutions serve more than 120,000 customers across the industrial, automotive, consumer, aerospace and defense, communications and computing markets. Headquartered in Chandler, Arizona, Microchip offers outstanding technical support along with dependable delivery and quality. For more information, visit the Microchip website at **www.microchip.com**.

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