Silicon Labs' New AC Current Sensors Replace Bulky Transformers

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AUSTIN, Texas, Dec 16, 2009 (BUSINESS WIRE) -- Expanding its popular ISOpro isolation product portfolio,Silicon Laboratories Inc. (NASDAQ: SLAB), a leader in high-performance, analog-intensive, mixed-signal ICs, has introduced a next-generation ac current sensor family that replaces traditional current transformers. Silicon Labs' new Si85xx ac current sensors provide up to 5 kVrms of electrical isolation to ensure safety compliance for a variety of critical power delivery systems such as ac-dc switching power supplies, isolated dc-dc supplies, motor control applications and electronic lighting ballasts.

The Si85xx ac current sensors provide a more reliable, cost-effective alternative to antiquated transformers for today's modern power delivery systems. Traditional transformers are large, bulky magnetic components that contribute significant supply losses and have parasitics that complicate system design. The highly integrated ISOpro ac current sensors feature a sophisticated architecture that minimizes the need for costly discrete components for filtering and reset circuitry. An available small-footprint QFN package eases printed circuit board (PCB) space constraints with a small 4x4x1 mm profile.

With a measurement accuracy of better than 5 percent, the Si85xx ac current sensors are available in 5 A, 10 A and 20 A versions. They provide a large output signal level of 2.0 V at full-scale output range, eliminating the need for an external amplifier. A "ping-pong" output mode enables one sensor to replace two current transformers and associated components in full-bridge applications, reducing board footprint by more than 50 percent and BOM cost by more than $0.30 (USD).

Offering the industry's lowest parasitic losses, the Si85xx current sensors enable designers to maximize system efficiency and meet aggressive power budgets for green energy standards. The devices' low resistance (<1.3 milliohms) and small parasitic inductance (<2 nH) result in more efficient power supplies that are easier and quicker to design.

"Silicon Labs' ISOpro Si85xx isolated ac current sensors provide a space- and cost-saving alternative to traditional transformers and their associated external components," said Dave Bresemann, vice president of Silicon Laboratories. "The new Si85xx current sensors also greatly improve system reliability. Based on mainstream CMOS process technology, the Si85xx devices require no hand winding or calibration at assembly unlike conventional mechanical transformers, which suffer from electrical and mechanical variations that reduce reliability and cause manufacturing headaches."

To ease the design process, the Si85xx ac sensor family is supported by a complete set of development tools including the Si85xx-EVB evaluation board and the OPENLPPOL-EVB open-loop point-of-load reference design.

Pricing and Availability

The Si85xx ISOpro devices integrate the entire current sensing bill of materials into two spacing-saving package types:

- A 20-pin SOIC with a 5 kVrms isolation rating for systems intended for deployment in global markets that are powered from widely varying ac input supply voltage ranges.
- A compact 4x4x1 mm QFN package for space-constrained designs requiring an isolation rating up to 1 kVrms. This QFN device is one-fourth the size of the smallest competitive product and five times thinner than a traditional transformer.

Samples of the Si85xx ac current sensors are available now. List pricing in 10,000-unit quantities ranges from $0.56 to $1.07 (USD) depending on isolation rating, package type, current range and output mode. The Si85xx-EVB and OPENLPPOL-EVB boards are priced at $19.95 and $99.00, respectively (USD). For more information about the Si85xx ac current sensors and development tools, visit www.silabs.com/pr/isolation.

Silicon Laboratories Inc.

Silicon Laboratories is an industry leader in the innovation of high-performance, analog-intensive, mixed-signal ICs. Developed by a world-class engineering team with unsurpassed expertise in mixed-signal design, Silicon Labs' diverse portfolio of highly integrated, easy-to-use products offers customers significant advantages in performance, size and power consumption. These patented solutions serve a broad set of markets and applications including consumer, communications, computing, industrial and automotive.

Headquartered in Austin, TX, Silicon Labs is a global enterprise with operations, sales and design activities worldwide. The company is committed to contributing to our customers' success by recruiting the highest quality talent to create industry-changing innovations. For more information about Silicon Labs, please visit www.silabs.com.

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This press release may contain forward-looking statements based on Silicon Laboratories' current expectations. These forward-looking statements involve risks and uncertainties. A number of important factors could cause actual results to differ materially from those in the forward-looking statements. For a discussion of factors that could impact Silicon Laboratories' financial results and cause actual results to differ materially from those in the forward-looking statements, please refer to Silicon Laboratories' filings with the SEC. Silicon Laboratories disclaims any intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

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Silicon Laboratories Inc.
Dale Weisman, +1-512-532-5871
dale.weisman@silabs.com