[Silicon Labs Power Management ICs Reduce Power and Cost for Power over Ethernet Equipment](#)

For larger PoE systems, the Si3482 power manager leverages the real-time voltage and current monitoring capability of the Si3452 controller to manage up to 48 ports with as many as three power sources.

Online PR News â€" 04-January-2011 â€" AUSTIN, Texas, October 25, 2010 - Silicon Laboratories Inc. (NASDAQ: SLAB), a leader in high-performance, analog-intensive, mixed-signal ICs, today introduced the Si348x family of power management ICs, enabling reduced system cost and improved efficiency in power over Ethernet (PoE) power sourcing equipment (PSE). Complementing Silicon Labs popular Si3452 PSE controllers, the new PoE power management ICs provide an easy-to-use, energy-efficient and small-footprint solution for streamlining power delivery in managed and unmanaged switches and routers, iPBXs, IP-based security systems, set-top boxes and power injectors.

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Efficient, intelligent and cost-effective balancing of powered device (PD) loads is a critical design consideration for multi-port PoE equipment. For example, the PoE+ standard allows up to 30 Watts per port to be sourced by the PSE, requiring 720 total Watts in a 24-port system. At any given time, some or perhaps most of these ports may not be in use or drawing full power. The ability to properly size the power supply through active power management enables dramatic power supply cost savings and higher system efficiency. Silicon Labs Si348x power management ICs take advantage of the real-time voltage and current monitoring capabilities of the Si3452 PoE controller to apply active power management based on actual consumption, enhancing the efficient use of switch ports beyond simple classification schemes.

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For compact systems of eight ports or less, the Si3480 power manager provides a pin-programmable, stand-alone solution that does not require an interface to an intelligent host, making it ideal for unmanaged switches or other applications in which the user wants full-featured active power management without having to write or integrate system software.

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For larger PoE systems, the Si3482 power manager leverages the real-time voltage and current monitoring capability of the Si3452 controller to manage up to 48 ports with as many as three power sources. The Si3482 device can be programmed by its host via a serial peripheral interface (SPI) or universal asynchronous receiver/transmitter (UART) interface, setting the power supply capacity, port power configuration, port priority, detection timing and fault recovery protocol. Once programmed, the Si3482 can operate without host intervention using the saved configuration data. The Si3482 also facilitates link layer discovery protocol (LLDP) agents in the host, which can call a routine in the Si3482 to dynamically adjust the amount of power granted to a PD during the course of a connection.

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Our innovative approach to active power management reduces PoE system cost by allowing designers to right-size power supplies in both managed and unmanaged switch products, avoiding costly overdesign, said Carlos Garcia, vice president of wireline products at Silicon Laboratories. Silicon Labs end-to-end PoE solutions are based on an integrated systems-level approach, giving designers the ability to optimize their

applications for power efficiency while reducing BOM costs and board space.

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Comprehensive Reference Designs and SDK

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Silicon Labs offers a complete suite of development tools including a graphical user interface (GUI)-based software development tool to enable quick evaluation and design with the Si348x ICs and companion Si3452 devices. The Si3480MS8-KIT development kit implements an 8-port midspan power injector with an intelligent power management LED display, enabling detailed evaluation of the Si3452 in conjunction with the Si3480 8-port power manager. The 24-port SmartPSE24-KIT power management evaluation kit supports SPI or UART-based interfaces and includes comprehensive power management functions to simplify designing with the Si3482 IC.

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For users who prefer a software-only solution, Silicon Labs offers a power manager software development kit (SDK) for systems that include an intelligent controller such as an Ethernet switch SoC. This SDK includes a power management kernel, GUI tool and an application programming interface (API). The SDK facilitates rapid porting to the switch controller, providing a turnkey power management capability for high port-count systems, leveraging the real-time monitoring capabilities of the Si3452 controller. Contact your local Silicon Labs representative for further information about the SDK.

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Pricing and Availability

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The Si3480 8-port power management IC is available in a 20-pin, 4 mm x 4 mm QFN package. Pricing for the Si3480 begins at $0.93 (USD) in 10,000-unit quantities. The Si3482 48-port power management IC is available in a 20-pin, 4 mm x 4 mm QFN package. Pricing for the Si3482 begins at $2.40 (USD) in 10,000-unit quantities. The Si348x devices are companion chips to Silicon Labs IEEE 802.3at-compliant Si3452 controller available in RoHS-compliant, 6 mm x 6 mm QFN packaging and priced at $3.40 (USD) in 10,000-unit quantities. The Si3480MS8-KIT and SmartPSE34-KIT kits are priced respectively at $299 and $379 (USD).

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For more information about the Si348x family, development kits and reference designs, visit www.silabs.com/pr/PoE.

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Silicon Laboratories Inc.

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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.

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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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