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True Power & Current Monitor Enables Board & System-Level Optimization

MILPITAS, CA – December 14, 2009 – Linear Technology Corporation introduces the LT2940, a power and current monitor for 4V to 80V systems. The LT2940 provides the necessary circuits to accurately measure, monitor and control power in situations where both the current and voltage may vary due to supply voltage uncertainty, component parametric changes, transient conditions or time-varying signals. Unlike traditional power monitors that rely on data converters and multiplying registers to calculate power, the LT2940 uses a true four-quadrant analog multiplier that results in 5% power measurement accuracy and 3% current measurement accuracy, ensuring that boards and systems achieve optimum power efficiency and reliability. The LT2940 is suitable for use in line cards and servers, power-sense circuit breakers, power control loops and a wide variety of metering applications.

The LT2940 measures a high-side current and differential voltage, and calculates the instantaneous power at a bandwidth exceeding 500kHz. Bidirectional high-side currents and bipolar voltage differences are correctly handled by a four-quadrant multiplier and push-pull output stage, which allow the device to indicate forward and reverse power flow. After current and voltage measurements are taken, current and power levels can be scaled, filtered and monitored separately via their respective proportional-to-current and proportional-to-power current outputs. Meanwhile, an integrated comparator with complementary open-collector outputs can be used to create PWM control loops, or provide simple logic of, for example, an over-power pin, an LED indicator alarm, a MOSFET load cutoff switch, an external fan, or a binary counter for metering applications. Together, the wide supply range, wide bandwidth and uncompromised accuracy make the LT2940 a complete versatile power monitoring solution.

The LT2940 is offered in commercial and industrial versions, supporting operating temperature ranges from 0°C to 70°C and -40°C to 85°C, respectively. The LT2940 is available today in RoHS compliant, 12-pin 3mm x 3mm DFN and 12-lead MSOP packages. Pricing starts

at \$2.05 each in 1,000 piece quantities. Please visit www.linear.com for more product selection and information.


Photo Caption: Power & Current Monitor as Load Monitor Alarm

Summary of Features: LT2940

- Four-Quadrant Power Measurement
- Power Measurement Accuracy 5%
- 4V to 80V High-Side Sense, 100V max.
- Current Mode Power & Current Outputs
- Output Bandwidth Exceeds 500kHz
- Current Measurement Accuracy 3%
- 6V to 80V Supply Range, 100V max.
- Inverting & Non-Inverting Open-Collector Comparator Outputs
- Available in 12-pin 3mm x 3mm DFN & 12-Lead MSOP Packages

About Linear Technology

Linear Technology Corporation, a manufacturer of high performance linear integrated circuits, was founded in 1981, became a public company in 1986 and joined the S&P 500 index of major public companies in 2000. Linear Technology products include high performance amplifiers, comparators, voltage references, monolithic filters, linear regulators, DC-DC converters, battery chargers, data converters, communications interface circuits, RF signal conditioning circuits, uModule[®] products, and many other analog functions. Applications for Linear Technology's high performance circuits include telecommunications, cellular telephones, networking products such as optical switches, notebook and desktop computers, computer peripherals, video/multimedia, industrial instrumentation, security monitoring devices, high-end consumer products such as digital cameras and MP3 players, complex medical devices, automotive electronics, factory automation, process control, and military and space systems.

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