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Battery Stack Fault Monitor Provides Independent Supervision of High Voltage Li-Ion Strings

MILPITAS, CA – December 10, 2009 – Linear Technology announces the LTC[®]6801, a high voltage battery stack fault monitor that operates without a microprocessor, and without the need for optocouplers or isolators. An LTC6801 can monitor up to 12 series-connected battery cells for overvoltage and undervoltage conditions. Multiple LTC6801 devices can be daisy chained, providing a method to monitor each individual cell in very long battery strings. When connected in a daisy-chain, a single differential clock output confirms that all cells in the stack are within the defined operating range. This clock interface provides high noise immunity and ensures that fault conditions are not hidden by frozen bits or short circuit conditions. The result is a reliable and simple design that can serve as a complete monitoring or redundant circuit. The LTC6801 is a low cost companion to the LTC6802 precision battery measurement and cell balancing IC, providing a backup circuit for hybrid electric battery packs, battery backup systems, and other high powered Li-Ion battery systems.

A wide range of overvoltage and undervoltage thresholds can be set via pin connections and the LTC6801 offers selectable threshold hysteresis and adjustable update rates. The LTC6801 is fully specified for operation from -40°C to 85°C and two temperature sensor inputs are monitored for over-temperature faults.

“The LTC6801 incorporates a number of important reliability features, including a comprehensive self-test to guarantee accuracy,” stated Mike Kultgen, design manager for Linear Technology. “These features will prove invaluable for high reliability battery management systems.”

Samples, demonstration boards and the data sheet for the LTC6801 are now available. Prices start at \$4.48 each in 1,000-piece quantities. The product will be available in production quantities in the first calendar quarter 2010. For more information, visit www.linear.com.


Photo Caption: High Voltage Multicell Battery Stack Fault Monitor

Summary of Features: LTC6801

- Monitors 4 to 12 Li-Ion Cells in Series (60V Max)
- Adjustable Overvoltage and Undervoltage Levels
- Stackable Architecture Enables 1000V+ Systems
- Operates without a Microcontroller
- Robust Fault Detection and Interface
- 2 Temperature Monitor Inputs
- Built-in Comprehensive Self-Test
- Built-in Precision 3V Reference and 5V Regulator
- Fully Specified for Operation from -40°C to 85°C
- 36-lead SSOP Package

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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