



High Voltage Automotive Battery Stack Monitor Achieves 0.04% Measurement Accuracy, Lower Cost & Improved Safety Features

MILPITAS, CA – November 18, 2015 – Linear Technology announces the [LTC6811](#) high voltage battery stack monitor, a drop-in replacement for the LTC6804 with higher performance and 25% lower price. The LTC6811 is a complete battery measuring IC for hybrid/electric vehicles that incorporates a deep buried Zener voltage reference, high voltage multiplexers, 16-bit delta-sigma ADCs and a 1Mbps isolated serial interface. An LTC6811 can measure up to 12 series-connected battery cell voltages with better than 0.04% accuracy. With 8 programmable 3rd order low pass filter settings, the LTC6811 provides outstanding noise reduction. In the fastest ADC mode, all cells can be measured within 290µsec.

For large battery packs, multiple LTC6811s can be interconnected and operated simultaneously, using Linear Technology's proprietary 2-wire isoSPI™ interface. This built-in interface provides electrically isolated, high RF noise immune communication for data rates up to 1Mbps. Using twisted pair, many LTC6811s can be connected in a daisy chain to one host processor, enabling the measurement of hundreds of cells in high voltage battery stacks.

The LTC6811 follows three generations of road-proven battery monitor ICs, designed to surpass the environmental, reliability and safety demands of automotive and industrial applications. The LTC6811 is fully specified for operation from -40°C to 125°C. It has been engineered for ISO 26262 (ASIL) compliant systems with extensive fault coverage via its redundant voltage reference, logic test circuitry, cross-channel testing, open wire detection capability, a watchdog timer and packet error checking on the serial interface.

For existing designs using Linear Technology's LTC6804 battery stack monitor, the LTC6811 is a drop-in replacement with additional filter cutoff frequencies, added passive and active balancing control features, new ADC commands and enhanced fault coverage for functional safety. The LTC6811 is fully supported by Linear's Linduino™ technology, an Arduino-based microcontroller board and software library. The microcontroller board includes an electrically isolated USB port and

directly connects to the LTC6811 demonstration board, providing a simple platform for evaluating and developing the LTC6811.

The LTC6811 is offered in a small 8mm x 12mm surface mount SSOP package. Priced at \$8.19 each in 1,000-piece quantities, samples and demonstration boards are now available at www.linear.com/product/LTC6811.

Photo Caption: 0.04% Accurate, High Voltage Multicell Battery Stack Monitor with Isolated Communications up to 100M

Summary of Features: LTC6811

- o Pin-Compatible Upgrade to Linear Technology's LTC6804
 - o 25% Lower Cost than the LTC6804
 - o Higher Performance
 - o Software Compatible
- o Measures Up to 12 Battery Cells in Series
- o Stackable Architecture Supports 100s of Cells
- o Built-in isoSPI™ Interface
 - o 1Mbps Isolated Serial Communications
 - o Uses a Single Twisted Pair, up to 100 Meters
 - o Low EMI Susceptibility & Emissions
- o 1.2mV Maximum Total Measurement Error
- o 290µs to Measure All Cells in a System
- o Synchronized Voltage & Current Measurement
- o 16-Bit Delta-Sigma ADC with Frequency Programmable 3rd Order Noise Filter
- o Engineered for ISO26262 Compliant Systems
- o Passive Cell Balancing with Programmable Timers
- o 5 General Purpose Digital I/O or Analog Inputs
 - o Temperature or Other Sensor Inputs
 - o Configurable as an I²C or SPI Master
- o 4µA Sleep Mode Supply Current
- o 48-Lead SSOP Package

The USA list pricing shown is for budgetary use only. International prices may differ due to local duties, taxes, fees and exchange rates.

About Linear Technology

Linear Technology Corporation, a member of the S&P 500, has been designing, manufacturing and marketing a broad line of high performance analog integrated circuits for major companies worldwide for over three decades. The Company's products provide an essential bridge between our analog world and the digital electronics in communications, networking, industrial, automotive, computer, medical, instrumentation, consumer, and military and aerospace systems. Linear Technology produces power management, data conversion, signal conditioning, RF and interface ICs, μ Module[®] subsystems, and wireless sensor network products. For more information, visit www.linear.com

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