

FEATURES

- Pin-Compatible Upgrade from the LTC6804
- Measures Up to 12 Battery Cells in Series
- 1.2mV Maximum Total Measurement Error
- Stackable Architecture Supports 100s of Cells
- Built-in isoSPI™ Interface
 - 1Mb Isolated Serial Communications
 - Uses a Single Twisted Pair, up to 100 Meters
 - Low EMI Susceptibility and Emissions
- 290µs to Measure All Cells in a System
- Synchronized Voltage and Current Measurement
- 16-Bit Delta-Sigma ADC with Programmable 3rd Order Noise Filter
- Engineered for ISO26262 Compliant Systems
- Passive Cell Balancing with Programmable Timer
- 5 General Purpose Digital I/O or Analog Inputs
 - Temperature or other Sensor Inputs
 - Configurable as an I²C or SPI master
- 6µA Sleep Mode Supply Current
- 48-Lead SSOP Package

APPLICATIONS

- Electric and Hybrid Electric Vehicles
- Backup Battery Systems
- Grid Energy Storage
- High Power Portable Equipment

DESCRIPTION

The LTC[®]6811 is a multi-cell battery stack monitor that measures up to 12 series connected battery cells with a total measurement error of less than 1.2mV. The cell measurement range of 0V to 5V makes the LTC6811 suitable for most battery chemistries. All 12 cells can be measured in 290µs, and lower data acquisition rates can be selected for high noise reduction.

Multiple LTC6811 devices can be connected in series, permitting simultaneous cell monitoring of long, high voltage battery strings. Each LTC6811 has an isoSPI interface for high speed, RF-immune, long distance communications. Using the LTC6811-1, multiple devices are connected in a daisy chain with one host processor connection for all devices. Using the LTC6811-2, multiple devices are connected in parallel to the host processor, with each device individually addressed.

The LTC6811 can be powered directly from the battery stack or from an isolated supply. The LTC6811 includes passive balancing for each cell, with individual PWM duty cycle control for each cell. Other features include an onboard 5V regulator, five general purpose I/O lines and a sleep mode, where current consumption is reduced to 6µA.

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TYPICAL APPLICATION

