



## **I<sup>2</sup>C Battery Gas Gauge Operates up to 20V**

MILPITAS, CA – October 29, 2013 – Linear Technology Corporation introduces the [LTC2943](#) multicell battery gas gauge which makes direct measurements of 3.6V to 20V battery stacks. Absolutely no level shifting circuitry on the supply and measurement pins is required to interface with multicell voltages, so total current consumption is minimized and measurement accuracy is preserved. The LTC2943 is a true high voltage gas gauge that measures charge, voltage, current and temperature to within 1% accuracy — all of the essential parameters required to accurately assess battery state of charge (SoC).

The LTC2943 is best suited for multicell applications, including professional power tools and portable medical equipment. Battery current is measured by monitoring the voltage across an external, high side sense resistor and integrating this information to infer charge. A bidirectional analog integrator accommodates either current polarity (battery charge or discharge), and a programmable prescaler allows for a wide range of battery capacities. Charge, voltage, current and temperature information are communicated to the host system over an I<sup>2</sup>C/SMBus-compatible 2-wire interface that is also used to configure the gas gauge. The host can program high and low thresholds for all measured parameters, which if tripped, signal an alert using either the SMBus alert protocol or by setting a register flag.

The LTC2943 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 LTC2943 is available today in a small RoHS compliant, 8-pin 3mm x 3mm DFN package. Pricing starts at \$2.35 each in 1,000 piece quantities. Please visit [www.linear.com/product/LTC2943](http://www.linear.com/product/LTC2943) for more product selection and information.


**Photo Caption:** 20V Battery Gas Gauge for Multicell Battery Systems

## Summary of Features: LTC2943

- Measures Accumulated Battery Charge & Discharge
- 3.6V to 20V Operating Range for Multicell Applications
- 14-Bit ADC Measures Voltage, Current & Temperature
- 1% Charge, Voltage & Current Accuracy
- $\pm 50\text{mV}$  Sense Voltage Range
- High-Side Sense
- I<sup>2</sup>C/SMBus Interface
- Configurable Alert Output/Charge Complete Input
- Quiescent Current  $< 120\mu\text{A}$
- Small 8-Pin 3mm x 3mm DFN package

### 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,  $\mu\text{Module}^{\circledR}$  subsystems, and wireless sensor network products. For more information, visit [www.linear.com](http://www.linear.com)

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#### Press Contacts:

##### North America / Worldwide

John Hamburger, Director Marketing  
Communications  
[jhamburger@linear.com](mailto:jhamburger@linear.com)  
Tel: 408-432-1900 ext 2419

Doug Dickinson, Media Relations Manager  
[ddickinson@linear.com](mailto:ddickinson@linear.com)  
Tel: 408-432-1900 ext 2233

##### UK & Nordic

Alan Timmins  
[alan@ezwire.com](mailto:alan@ezwire.com)  
Tel: +44-1-252-629937