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60V Battery Charging Controller & Power Manager

MILPITAS, CA – April 18, 2011 – Linear Technology Corporation introduces the [LTC4000](#), a high voltage controller and power manager that converts virtually any externally compensated DC/DC power supply into a full-featured battery charger. The LTC4000 is capable of driving typical DC/DC converter topologies, including buck, boost, buck-boost, SEPIC and flyback. The device offers precision input and charge current regulation and operates across a wide 3V to 60V input and output voltage range, compatible with a variety of different input voltage sources, battery stacks and chemistries. Typical applications include high power battery charger systems, high performance portable instruments, battery back-up systems, industrial battery-equipped devices and notebook/subnotebook computers.

The LTC4000 features an intelligent PowerPath™ topology that preferentially provides power to the system load when input power is limited. The LTC4000 controls external PFETs to provide low loss reverse current protection, efficient charging and discharging of the battery and instant-on operation to ensure that system power is available at plug-in even with a dead or deeply discharged battery. External sense resistors and precision sensing enable accurate currents at high efficiency, allowing the LTC4000 to work with converters that span the power range from milliwatts to kilowatts.

The LTC4000's full-featured controller charges a variety of battery chemistries including lithium-ion/polymer/phosphate, sealed lead acid (SLA), and nickel-based. The device also provides charge status indicators through its FLT and CHRG pins. Other features of the battery charger include: $\pm 0.2\%$ programmable float voltage, selectable timer or C/X current termination, temperature-qualified charging using an NTC thermistor, automatic recharge, C/10 trickle charge for deeply discharged cells and bad battery detection.


The LTC4000 is housed in a low profile (0.75mm) 28-pin 4mm x 5mm QFN package and a 28-lead SSOP package. The device is guaranteed for operation from -40°C to 125°C. 1,000-piece pricing starts at \$3.95 each. For more information, visit www.linear.com/product/LTC4000

Photo Caption: High Power Charge Controller Interfaces with Any Switching Regulator**Summary of Features: LTC4000**

- Implements a Complete High Performance Battery Charger when Paired with a DC/DC Converter (Buck, Buck-Boost, Boost, SEPIC & Flyback)
- Wide Input & Output Voltage Range: 3V to 60V
- Input Ideal Diode for Low Loss Reverse Blocking & Load Sharing
- Output Ideal Diode for Low Loss PowerPath™ & Load Sharing with the Battery
- Instant-On Operation with Heavily Discharged Battery
- Programmable Input & Charge Current: $\pm 1\%$ Accuracy
- Accurate Programmable Float Voltage: $\pm 0.2\%$ at Room & $\pm 1\%$ over Temperature
- Programmable C/X or Timer-Based Charge Termination
- NTC Input for Temperature Qualified Charging
- 28-Lead 4mm x 5mm QFN or SSOP Packages

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 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, and μ Module® subsystems.

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