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60V Battery Charging Controller & Power Manager Features Input Maximum Power Point Control

MILPITAS, CA – August 2, 2012 – Linear Technology Corporation introduces the [LTC4000-1](#), a high voltage controller and power manager with input maximum power point control (MPPC) that converts virtually any externally compensated DC/DC power supply into a full-featured battery charger. The LTC4000-1 is capable of driving typical DC/DC converter topologies, including buck, boost, buck-boost, SEPIC, flyback and forward. The device offers precision input current monitoring and charge current monitoring and regulation. It 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. The LTC4000-1's MPPC circuit features an input voltage regulation loop that controls charge current to maintain the input voltage at a programmed level, ideal for solar panels or other high impedance sources. Applications include: high power battery charger systems, high performance portable instruments, battery backup systems, and industrial or military battery-equipped devices.

The LTC4000-1 features an intelligent PowerPath™ topology that preferentially provides power to the system load when input power is limited. The LTC4000-1 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 deeply discharged battery. External sense resistors and precision sensing ensure accurate currents at

high efficiency, allowing operation with converters that span the power range from milliwatts to kilowatts.

The LTC4000-1's full-featured controller charges a variety of battery chemistries, including lithium-ion/polymer/phosphate, sealed lead acid (SLA), and nickel-based. The device 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 LTC4000-1 is housed in low profile (0.75mm) 28-pin 4mm x 5mm QFN and 28-lead SSOP packages. 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/LTC4000-1


Photo Caption: High Power MPPC Charge Controller Interfaces with Any Switching Regulator

Summary of Features: LTC4000-1

- Maximum Power Control: Solar Panel Input Compatible
- 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 Charge Current: $\pm 1\%$ Accuracy
- Precision Input & Charge Current Monitors
- 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, μ Module[®] subsystems, and wireless sensor network products. For more information, visit www.linear.com

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