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## **Small Footprint 4V-38V Input Voltage Range Synchronous Step-Down DC/DC Controller**

MILPITAS, CA – May 20, 2009 – Linear Technology Corporation announces the LTC3854, a tiny 2mm x 3mm DFN-12 packaged, wide input voltage range synchronous step-down switching DC/DC controller that drives all N-channel power MOSFET stages. The 4V to 38V input range addresses a wide variety of applications, including most intermediate bus voltages and battery chemistries. The strong on-board MOSFET gate drivers enable high power external MOSFETs to produce output currents up to 20A with output voltages ranging from 0.8V to 5.5V. This makes the LTC3854 ideal for point-of-load regulation requirements in datacom, telecom, industrial, automotive, medical and multi-function printer applications.

A constant-frequency current mode architecture provides a fixed 400kHz operating frequency. The LTC3854 features an onboard 5V regulator, eliminating the need for a separate bias voltage to power the chip. OPTI-LOOP<sup>®</sup> compensation allows the transient response to be optimized over a wide range of output capacitance and ESR values, including all ceramic capacitor designs. Output current sensing measures the voltage drop across the output inductor (DCR) or an optional sense resistor. Current foldback limits MOSFET heat dissipation during short-circuit and overload conditions. In addition, the LTC3854 has adjustable soft-start to control the turn-on time and manage inrush current. Selectable continuous or discontinuous inductor current modes are available to safely power pre-biased loads. Anti-shoot-through protection prevents shoot-through current in the power MOSFETs. Operating up to 96% duty cycle, the LTC3854 has a very low dropout voltage for extending run times in battery-powered applications. The LTC3854 features a precision 0.8V reference with an accuracy of  $\pm 1\%$  over the  $-40^{\circ}\text{C}$  to  $85^{\circ}\text{C}$  operating temperature range.

The LTC3854 is available from stock with prices starting at \$1.65 in 1000-piece quantities. For more information, visit [www.linear.com](http://www.linear.com).

## Photo Caption: Synchronous Step-Down DC/DC Controller

### Summary of Features: LTC3854

- $V_{IN}$  Range: 4V to 38V
- $V_{OUT}$  Range: 0.8V to 5.5V
- Strong On-Board N-Channel MOSFET Drivers
- On-Board 5V Regulator
- Small 2mm x 3mm DFN-12 Package
- Anti-Shoot Through Protection
- Current Mode Control
- Safely Powers Pre-Biased Loads
- DCR or  $R_{SENSE}$  Current Sense Options
- Output Foldback Current Limit
- Programmable Soft-Start
- 400kHz Fixed Operating Frequency
- 96% Maximum Duty Cycle
- $\pm 1\%$  Reference Voltage Accuracy over  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$

### About Linear Technology

Linear Technology Corporation, a manufacturer of high performance linear integrated circuits, was founded in 1981, became a public company in 1986 and joined the S&P 500 index of major public companies in 2000. Linear Technology products include high performance amplifiers, comparators, voltage references, monolithic filters, linear regulators, DC-DC converters, battery chargers, data converters, communications interface circuits, RF signal conditioning circuits, uModule<sup>®</sup> products, and many other analog functions. Applications for Linear Technology's high performance circuits include telecommunications, cellular telephones, networking products such as optical switches, notebook and desktop computers, computer peripherals, video/multimedia, industrial instrumentation, security monitoring devices, high-end consumer products such as digital cameras and MP3 players, complex medical devices, automotive electronics, factory automation, process control, and military and space systems.

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