Dual, 2-Phase Synchronous Step-Down DC/DC Controller in 4 x 4 QFN

MILPITAS, CA – July 3, 2007 – Linear Technology Corporation announces the LTC3850, a 95% efficient, dual output synchronous step-down switching regulator controller that drives all N-channel power MOSFET stages with coincident or ratiometric tracking. The 4V to 24V input range encompasses a wide variety of applications including most intermediate bus voltages and battery chemistries. The strong on-board driver allows the use of high power external MOSFETs to produce output currents up to 20A with output voltages ranging from 0.8V to 5.5V. Applications include notebook and tablet PCs, portable instruments, datacom, telecom, set-top boxes, basestations, and multifunction printers where a step-down DC/DC converter must deliver high power with low heat dissipation in a small solution size.

A constant-frequency current mode architecture allows a selectable fixed or phase-lockable (PLL) frequency from 250kHz to 780kHz . Power loss and supply noise are minimized by operating both stages 180° out-of-phase. OPTI-LOOP® compensation allows the transient response to be optimized over a wide range of output capacitance and ESR values, including all ceramic input and output capacitors. Output current sensing is accomplished by measuring the voltage drop across the output inductor (DCR) or by using an optional sense resistor. Current foldback limits MOSFET heat dissipation during short-circuit conditions. In addition, the LTC3850 has adjustable soft-start to control the turn-on time. Selectable Burst Mode® operation, pulse skipping mode or continuous inductor current mode is user controlled to optimize light load efficiency vs. output ripple. The LTC3850 features a precision 0.8V reference with an accuracy of ±1% over a -40°C to 85°C operating temperature range. With up to 97% duty cycle, the LTC3850 has a very low drop-out voltage, a useful feature for extending run times in battery powered applications.

The LTC3850 is offered in a thermally enhanced 4mm x 4mm QFN-28 and SSOP-28 packages. Pricing for 1,000-piece quantities begins at $2.40 each.

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

Summary of Features: LTC3850

- Dual, 180° Out-of-Phase Controllers Reduce Noise & Input Capacitance
- Tracking & Phase-Lock-Loop Synchronization
- DCR or R_{SENSE} Current Sense Options
- Current Mode Control
- Strong On-Board N-Channel MOSFET Driver
- Fixed Operating Frequency from 250kHz to 780kHz
- Synchronizable from 250kHz to 780kHz
- ±1% Reference Voltage Accuracy over -40°C to +85°C
- Programmable Soft-Start
- Power Good Signal

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, 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. For more information, visit www.linear.com

Press Contacts:

John Hamburger, Director Marketing Communications
jhamburger@linear.com
Tel: 408-432-1900 ext 2419

Doug Dickinson, Media Relations Manager
ddickinson@linear.com
Tel: 408-432-1900 ext 2233