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## **Triple Output Synchronous Step-Down DC/DC Controller**

MILPITAS, CA – September 10, 2008 – Linear Technology Corporation announces the LTC3853, a highly efficient, triple output synchronous step-down switching regulator controller with coincident or ratiometric tracking that safely powers pre-biased loads. The 4.5V to 24V (28V Max.) input range encompasses a wide variety of applications including most intermediate bus voltages. The strong on-board gate drivers power all N-channel MOSFET stages and can produce output currents up to 20A per phase with output voltages ranging from 0.8V to 13.5V. Applications include point-of-load regulation in datacom, telecom, set-top boxes, basestations, and multifunction printers, where multiple voltage rails 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 750kHz. Power loss and supply noise are minimized by operating the three stages 120° out-of-phase. The LTC3853 can also be used in a 2+1 configuration, with output stages 1 and 2 180° out of phase. OPTI-LOOP<sup>®</sup> compensation allows for 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 and overload conditions. In addition, the LTC3853 has adjustable soft-start to control the turn-on time. Selectable Burst Mode<sup>®</sup> operation, pulse skipping or continuous inductor current modes are user controlled to optimize light load efficiency vs. output ripple. The LTC3853 features a precision 0.8V reference with an accuracy of ±1% over a -40°C to 125°C operating temperature range. With up to 98% duty cycle, the LTC3853 has a very low drop-out voltage, a useful feature for extending run times in battery-powered applications.


The LTC3853 is offered in a thermally enhanced 6mm x 6mm QFN-40 package. Pricing for 1,000-piece quantities begins at \$3.53 each.

**Photo Caption:** Triple Output Step-Down DC/DC Controller**Summary of Features: LTC3853**

- Triple, 120° Out-of-Phase Controller Reduces Noise & Input Capacitance
- Tracking and Phase-Lock-Loop Synchronization
- Safely Powers Pre-Biased Loads
- Fixed or Synchronizable Operating Frequency from 250kHz to 750kHz
- DCR or  $R_{SENSE}$  Current Sense Options
- Peak Current Mode Control
- Strong On-Board N-Channel MOSFET Gate Driver
- On-Board 5V Linear Regulator
- Selectable Burst Mode, Pulse Skip, or Forced Continuous Operating Modes
- $\pm 1\%$  Reference Voltage Accuracy Over  $-40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$
- 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, 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. For more information, visit [www.linear.com](http://www.linear.com).

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