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1.1MHz, 25V Dual Step-Down DC/DC Converter Delivers 1.6A per Channel from a 5mm x 4mm DFN Package

MILPITAS, CA – October 5, 2006 – Linear Technology Corporation announces the LT3506 and LT3506A, dual current mode PWM step-down DC/DC converters with two 2A power switches packaged in a 16-lead 5mm x 4mm DFN package. Each channel is capable of delivering up to 1.6A of output current. Their wide input range of 3.6V to 25V makes them ideal for regulating power from a wide variety of sources, including four cell batteries, 5V and 12V rails, unregulated wall transformers, lead acid batteries and distributed power supplies. The LT3506 switches at 575kHz while the LT3506A switches at 1.1MHz enabling the use of tiny, low cost inductors and ceramic capacitors, while delivering low, predictable output ripple.

The LT3506 and LT3506A's low V_{CESAT} (210mV @1A) internal switches offer efficiencies of up to 88%, minimizing thermal constraints and maximizing battery run-time. Low voltage outputs are easily attained due to an internal reference of 0.80V. Each channel has independent shutdown and soft-start pins as well as independent power good indicators to ease power sequencing. The channels switch 180 degrees out of phase with respect to the other, reducing input ripple and minimizing capacitance needs. Internal cycle-by-cycle current limit provides protection against shorted outputs while soft-start eliminates input current surge during start up. The low current (<30uA typ) shutdown provides easy power management in battery-powered systems.

The LT3506EDHD and LT3506AEDHD are both available from stock in a thermally enhanced 5mm x 4mm DFN-16 package. Pricing starts at \$2.95 each for 1,000-piece quantities.


Photo Caption: 25V, 1.1MHz Dual 1.6A (I_{OUT}) Step-Down Switching Regulator

Summary of Features: LT3506/A

- Wide Input Voltage Range, 3.6V to 25V
- Two 1.6A Output Switching Regulators with Internal Power Switches
- Constant Switching Frequency
 - LT3506: 575kHz
 - LT3506A: 1.1MHz
- Anti-Phase Switching Reduces Ripple
- Accurate 0.8V Reference
- Independent Shutdown/Soft-Start Pins
- Independent Power Good Indicators Ease Supply Sequencing
- Uses Small Inductors and Ceramic Capacitors
- Small 16-Lead DFN Surface Mount Package

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

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Press Contacts:

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

Doug Dickinson, Media Relations Manager
ddickinson@linear.com
408-432-1900