2.25 MHz Synchronous Step-Down DC/DC Converter Delivers up to 1.25A from a 2mm x 3mm DFN

MILPITAS, CA – July 1, 2008 – Linear Technology announces the LTC3564, a high efficiency, 2.25MHz, synchronous buck regulator that can deliver up to 1.25A of continuous output current from a 2mm x 3mm DFN or ThinSOT package. Using a constant frequency current mode architecture, the LTC3564 operates from an input voltage range of 2.5V to 5.5V, making it ideal for Li-Ion battery inputs as well as 3.3V or 5V inputs for point-of-load applications. It can generate output voltages as low as 0.6V, enabling it to power the latest generation of low voltage DSPs and microcontrollers. It utilizes a constant 2.25MHz switching frequency, enabling the use of tiny, low cost ceramic capacitors and inductors less than a 1mm in height, providing a very compact solution footprint.

The LTC3564 uses internal switches with an $R_{DS(ON)}$ of only 0.15Ohm (N-Channel and P-Channel) to deliver efficiencies as high as 96%. It also has low dropout 100% duty cycle operation to extend battery run-time. The LTC3564 utilizes automatic Burst Mode™ operation to achieve only 20uA of no load quiescent current and less than 1uA in shutdown. Other features include ± 2% output voltage accuracy, current mode operation and over-temperature protection.

The LTC3564EDBC is available in a 2mm x 3mm DFN-6 package while the LTC3564ES5 is available in a 5-lead ThinSOT package. Both versions are available from stock. Pricing starts at $1.95 each for both parts in 1,000-piece quantities. The LTC3564IDBC and LTC3564ISS are both tested and guaranteed to operate from a -40°C to 125°C junction temperature. They are both priced at $2.24 in 1,000-piece quantities and are available from stock.

Photo Caption: 1.25A, 2.25MHz Synchronous Step-Down DC/DC Converter

Summary of Features: LTC3564

- High Efficiency: Up to 96%
- Very Low Quiescent Current: Only 20uA
- 1.25A Output Current
- 2.5V to 5.5V Input Voltage Range
- 2.25MHz Constant Frequency Operation
- No Schottky Diode Required
- Low Dropout Operation: 100% Duty Cycle
- 0.6V Reference Allows Low Output Voltages
- Shutdown Mode Draws ≤ 1uA Supply Current
- Current Mode Operation for Excellent Line and Load Transient Response
- Over-temperature Protected
- Low Profile (1mm) ThinSOT™ & 6-Lead 2mm × 3mm DFN Packages

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™ 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.

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