

LTC News for Immediate Release

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**1.5MHz/2.25MHz, 600mA Synchronous Step-Down Regulator with
LDO Mode Delivers Low Noise Operation**

MILPITAS, CA – July 19, 2005 – Linear Technology Corporation announces the LTC3448, a high efficiency, 2.25 MHz (or 1.5MHz) synchronous buck regulator which can deliver up to 600mA of continuous output current. It operates in two modes; first, when output current is greater than 3mA, it switches at a constant frequency of 2.25MHz. If output current drops to 3mA or below, it automatically transitions into a very low noise LDO mode consuming only 32uA of quiescent current. Output ripple is less than 5mV_{P-P} in switching mode and is low noise in LDO mode, making it ideal for low noise applications such as handheld wireless applications. Using a current mode architecture, the LTC3448 operates from an input voltage range of 2.5V to 5.5V, making it ideal for single cell Li-Ion, multi-cell Alkaline or NiMH applications. It can generate output voltages as low as 0.6V, enabling it to power the latest generation of low voltage DSPs and microcontrollers. The user can set the LTC3448's switching frequency to either 1.5 MHz or 2.25MHz and can synchronize the device up to 4MHz allowing the utilization of tiny, low cost ceramic capacitors and inductors less than 1.2 mm in height. Alternately, the part can be synchronized to an external clock. The combination of tiny externals and a 3mm x 3mm DFN-8 (or MSOP-8E) provide a very compact solution footprint for space conscious handheld applications.

The LTC3448 uses internal synchronous switches with an $R_{DS(ON)}$ of only 0.35 Ohm and 0.40 Ohm to deliver efficiencies as high as 96%. It also utilizes low dropout 100% duty cycle operation to allow output voltages approaching V_{IN} , further extending battery run-time. Light load quiescent current is only 32uA and <1uA in shutdown ensuring maximum battery life. The LTC3448's LDO mode can be enabled automatically or via an external input. The LTC3448 is ideal for handheld applications requiring both low noise operation and low quiescent currents.

(more...)

The LTC3448EDD is available in a 3mm x 3mm DFN-8 package while the LTC3448EMS8E is available in a thermally enhanced MSOP-8 package. Both are available from stock. Pricing starts at \$2.05 each for both package options in 1,000-piece quantities.

Summary of Features: LTC3448

- High Efficiency: Up to 96%
- Very Low Noise: <300uV_{RMS} LDO Mode
- Very Low Quiescent Supply Current: 32uA in LDO Mode
- 600mA Output Current (Buck Converter)
- Optionally Operates as Linear Regulator Below 3mA—User Selected or Automatic ON/OFF
- 2.5V to 5.5V Input Voltage Range
- 1.5MHz or 2.25MHz Constant Frequency Operation or External Synchronization
- Low Dropout Operation: 100% Duty Cycle
- 0.6V Reference Allows Low Output Voltages
- Current Mode Operation for Excellent Line and Load Transient Response
- Low Profile (3mm x 3mm) 8-Lead DFN and 8-Lead MSOP Packages

COMPANY BACKGROUND: Linear Technology Corporation was founded in 1981 as a manufacturer of high performance linear integrated circuits. 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.

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