



Dual 2.25MHz Synchronous Step-Down DC/DC Converter in 3mm x 3mm DFN Delivers up to 600mA per Channel

MILPITAS, CA – May 23, 2007 – Linear Technology announces the LTC3419/-1, a dual output, high efficiency, 2.25 MHz synchronous buck regulator that can deliver up to 600mA of continuous output current from each channel. Using a constant frequency current mode architecture, the LTC3419 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 two independent output voltages as low as 0.6V, enabling it to power the latest generation of low voltage DSPs and microcontrollers. A fixed output voltage version, the LTC3419-1 is also available with fixed 1.575V and 1.8V outputs. Both versions use a switching frequency of 2.25 MHz, which allows for the utilization of tiny, low cost ceramic capacitors and inductors less than 1 mm in height. The combination of dual architecture, the tiny externals and a 3mm x 3mm DFN (or MSOP-10) package make the LTC3419/-1 a very compact synchronous step-down solution for dual output voltage rails.

The LTC3419/-1 uses internal switches with an $R_{DS(ON)}$ of only 0.4 Ohms to deliver efficiencies as high as 96%. It also utilizes low dropout 100% duty cycle operation to allow output voltages equal to V_{IN} , further extending battery run-time. No load quiescent current is only 35uA (both channels), and <1uA in shutdown, ensuring optimal battery life. The LTC3419/-1 utilizes automatic Burst Mode[®] operation to reduce gate charge losses when the load current drops below the level required for continuous operation, providing optimum efficiency at light loads. If the application is noise sensitive, the user can disable BurstMode, replacing it with a lower noise pulse-skipping mode. Other features include independent soft-start for each channel, short-circuit protection and internal compensation.

The LTC3419EDD and LTC3419-1EDD are both available from stock in a DFN-8. The LTC3419EMS and LTC3419EMS-1 are available from stock in an MSOP package. Pricing for all versions starts at \$1.95 each for 1,000-piece quantities.

Photo Caption: Dual 2.25MHz, 600mA Synchronous Step-Down DC/DC Converter

Summary of Features: LTC3419/-1

- 600mA Current per Channel at $V_{IN} = 3V$
- High Efficiency Dual Step-Down Outputs: Up to 96%
- Only 35uA Quiescent Current During Operation (Both Channels)
- 2.25MHz Constant Frequency Operation
- 2.5V to 5.5V Input Voltage Range
- Low Dropout Operation: 100% Duty Cycle
- No Schottky Diodes Required
- Internally Compensated for All Ceramic Capacitors
- Independent Internal Soft-Start for Each Channel
- Available in Fixed Output Versions; 1.8V and 1.575V
- Current Mode Operation for Excellent Line and Load Transient Response
- 0.6V Reference Allows Low Output Voltages
- User-Selectable Burst Mode Operation
- Short-Circuit Protected
- Ultralow Shutdown Current: $I_Q < 1\mu A$
- Available in Small MSOP or 3mm x 3mm DFN-8 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, 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 2419

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