



## **Dual 2.25MHz Synchronous Step-Down DC/DC Converter with Programmable Input Current Limit Delivers 400mA & 800mA Independently**

MILPITAS, CA – September 23, 2009 – Linear Technology announces the LTC3619, a dual output, high efficiency, 2.25 MHz, synchronous buck regulator with programmable average input current limit. It can deliver up to 800mA of continuous output current from one channel and 400mA from the other with efficiencies as high as 96%. Using a constant frequency and current mode architecture, the LTC3619 operates from an input voltage range of 2.5V to 5.5V, making it ideal for single-cell Li-Ion and USB 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. The LTC3619 uses 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, tiny externals and a 3mm x 3mm DFN (or thermally enhanced MSOP-10) package make the LTC3619 a highly compact synchronous step-down solution for dual output voltage rails.

The LTC3619 offers a programmable average input current limit that can be programmed between 200mA and 1.2A, with  $\pm 5\%$  accuracy via a single resistor. The 400mA channel remains in regulation even when the input current limit is reached. This makes the LTC3619 ideal for USB applications, supercapacitor charging and point-of-load power supplies. Combined with a supercapacitor, the LTC3619 enables its 800mA output to deliver high peak load current without collapsing the input supply or the 400mA output for applications such as GSM amplifiers. It also utilizes low dropout 100% duty cycle operation to allow output voltages equal to  $V_{IN}$ , further extending battery runtime. The LTC3619 uses Burst Mode<sup>®</sup> operation to reduce no load quiescent current to only 50uA (both channels) and <1uA in shutdown, providing optimal battery life. The LTC3619B uses a pulse skipping mode to minimize switching interference in applications that require the lowest possible noise. Other features include independent soft-start and power good indicator for each channel,

short-circuit protection and internal compensation. The LTC3619 is an ideal solution for handheld applications requiring input current limiting, dual outputs of up to 400mA and 800mA, high efficiency and a very small solution footprint.

The LTC3619EDD and LTC3619BEDD are both available from stock in a 3mm x 3mm DFN-10. Similarly, the LTC3619EMSE and LTC3619BEMSE are both available from stock in a thermally enhanced MSOP-10 package. Pricing starts at \$2.25 each for 1,000-piece quantities. Industrial grade versions, namely the LTC3619IDD, LTC3619BIDD (in DFN-10 packages) LTC3619IMSE, and LTC3619BIMSE (in MSOP-10E packages) are tested and guaranteed to operate over a -40°C to 125°C operating junction temperature range and are priced at \$2.65 each in 1,000-piece quantities. All versions are available from stock. For more information, visit [www.linear.com](http://www.linear.com).


**Photo Caption:** Dual 800mA & 400mA Synchronous Step-Down DC/DC Converter with Input Current Limit

### Summary of Features: LTC3619/B

- Programmable Average Input Current Limit:  $\pm 5\%$  Accuracy
- Dual Step-Down Outputs: Up to 96% Efficiency
- 400mA Output Remains in Regulation Even When Input Current Limit Is Reached
- Quiescent Current: 50uA (LTC3619)
- Very Low Noise Operation (LTC3619B)
- Input Voltage Range: 2.5V to 5.5V
- Output Voltage Range: 0.6V to 5V
- 2.25MHz Constant-Frequency Operation
- Power Good Output Voltage Monitor for Each Channel
- Low Dropout Operation: 100% Duty Cycle
- Independent Internal Soft-Start for Each Channel
- Current Mode Operation for Excellent Line & Load Transient Response
- $\pm 2\%$  Output Voltage Accuracy
- Short-Circuit Protected
- Shutdown Current  $\leq 1\mu\text{A}$
- Available in Small Thermally Enhanced 10-Lead MS & 3mm x 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<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.

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