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32V Input Synchronous Step-Down Regulator Delivers 10A from a 9mm x 9mm QFN

MILPITAS, CA – March 10, 2008 – Linear Technology announces the LTC3611, a high efficiency, synchronous buck regulator that delivers up to 10A of continuous output current at voltages as low as 0.6V. It operates from an input voltage of 4.5V to 32V (36V ABS Max), making it ideal for applications with multicell Li-Ion, lead acid batteries or fixed voltage rails up to 32V. Its valley current control architecture delivers very low duty cycle operation at high frequencies with excellent transient response. The operating frequency is set by an external resistor. Switching frequencies of up to 1 MHz allow the utilization of small, low cost ceramic capacitors and low profile inductors.

The LTC3611 uses internal switches with an $R_{DS(ON)}$ of only 15mOhm and 9mOhm to deliver efficiencies as high as 95%. The LTC3611 can be configured for discontinuous or forced continuous operation. Forced continuous operation reduces noise and RF interference while discontinuous mode provides high efficiency by reducing switching losses at light loads while requiring only 900uA of quiescent current. Additional features include a Power Good voltage monitor, adjustable current limit, output overvoltage protection and programmable soft-start.

The LTC3611EWP is available from stock in a 64-lead, 9mm x 9mm QFN package. Pricing starts at \$9.75 in 1,000-piece quantities. An industrial grade version, the LTC3611IWP is tested and guaranteed to operate from a -40°C to 125°C operating junction temperature and is priced at \$11.21 in 1,000-piece quantities. All versions are available from stock.


Photo Caption: 10A, 32V Synchronous Step-Down DC/DC Converter in QFN

Summary of Features: LTC3611

- 32V_{IN}, 10A Synchronous Buck Converter 9mm x 9mm QFN
- 10A Output Current
- Wide V_{IN} Range = 4.5V to 32V (36V Maximum)
- Integrated N-Channel Power MOSFETs
- True Current Mode Control
- Optimized for High Step-Down Ratios
- Extremely Fast Transient Response
- Stable with Ceramic C_{OUT}
- ±1% 0.6V Voltage Reference
- Power Good Output Voltage Monitor
- Adjustable On-Time/Switching Frequency (>1MHz)
- Adjustable Current Limit
- Programmable Soft-Start
- Output Overvoltage Protection
- Optional Short-Circuit Shutdown Timer
- Low Shutdown I_Q: 15uA
- Available in a 9mm x 9mm 64-Pin QFN 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, 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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