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## **15V, 4MHz, Synchronous Dual 3A Step-Down Regulator in a 4mm x 5mm QFN**

MILPITAS, CA – February 10, 2010 – The LTC3633 is a high efficiency, 4MHz synchronous dual output buck regulator that incorporates a unique constant frequency/controlled on-time, current mode architecture. It can deliver up to 3A of continuous output current from each channel at output voltages as low as 0.6V from a 4mm x 5mm QFN package. The LTC3633 operates from an input voltage of 3.6V to 15V, making it ideal for dual-cell Li-Ion applications as well as 5V and 12V intermediate bus systems. Its switching frequency is user programmable from 800kHz to 4MHz, enabling the use of tiny, low cost capacitors and inductors.

Each channel of the LTC3633 uses internal switches with  $R_{DS(ON)}$  of only 50mOhms and 80mOhms to deliver efficiencies as high as 96%. Its unique control architecture enables it to achieve duty cycles as low as 5% while maintaining switching frequencies as high as 2.25MHz, making it ideal for high step-down ratio applications such as 12V<sub>IN</sub> to 1.2V<sub>OUT</sub> conversions. The two channels run 180 degrees out of phase, minimizing the size of both input and output capacitance. Burst Mode<sup>®</sup> operation is used to maximize light load efficiency, requiring only 500uA at no load, making it well suited for applications demanding maximum battery run time. For applications that require the lowest possible noise, the LTC3633 can be configured to run in pulse skipping or forced continuous mode, reducing supply ripple and potential RF interference. Additional features include Power Good voltage monitors, output voltage tracking capability, independent soft-start capability for each channel and short circuit protection.

The LTC3633EUFD is available in a 4mm x 5mm QFN-28. Pricing starts at \$4.25 each in 1,000-piece quantities. The LTC3633EFE is available in a TSSOP-28 thermally enhanced package with pricing start at \$4.40 each in 1,000-piece quantities. Industrial grade versions, the LTC3633IUFD and LTC3633IFE, are guaranteed to operate over the -40°C to 125°C operating junction temperature range and the LTC3633IUFD is priced at \$4.72 each in 1,000-piece quantities and the LTC3633IFE is priced at \$4.89 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 3A, 15V Synchronous Step-Down DC/DC Converter in 4x5 QFN

### Summary of Features: LTC3633

- High Efficiency Dual Step-Down Regulator
- 3.6V to 15V Input Voltage Range
- 3A Output Current per Channel
- Low Duty Cycle Operation: 5% at 2.25MHz
- 180° Out-of-Phase Operation
- Adjustable Switching Frequency: 800kHz to 4MHz
- Phase-Locked Loop Frequency Synchronization
- 0.6V Reference Allows Low Output Voltages
- User Selectable Burst Mode<sup>®</sup> Operation, Pulse Skipping Mode, or Forced Continuous Operation
- Available in a (4mm x 5mm) QFN-28 Package + TSSOP-28 E

### 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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