



## **15V, 3MHz Synchronous Step-Down Regulator Delivers 2.5A from a 4mm x 4mm QFN**

MILPITAS, CA – January 27, 2009 – The LTC3603 is a high efficiency, 3MHz synchronous buck regulator that uses a constant frequency, current mode architecture. It can deliver up to 2.5A of continuous output current at output voltages as low as 0.6V from a 4mm x 4mm QFN or a thermally enhanced MSOP-16 package. The LTC3603 operates from an input voltage of 4.5V to 15V, making it ideal for dual cell Li-Ion applications as well as 12V fixed rail systems. Its switching frequency is user programmable from 300kHz to 3MHz, enabling the use of tiny low cost capacitors and inductors.

The LTC3603 uses internal switches with  $R_{DS(ON)}$  of only 45mOhms and 85mOhms to deliver efficiencies as high as 95%. It is capable of low dropout 99% duty cycle operation to allow output voltages very close to  $V_{IN}$ . No load quiescent current is only 75uA and less than 1uA in shutdown. An adjustable Burst Mode<sup>®</sup> clamp can be programmed to maximize light load efficiency, making it well-suited for applications that demand maximum battery run-time. For applications that require the lowest noise possible, the LTC3603 can be configured to run in forced continuous mode reducing noise and potential RF interference. Additional features include a Power Good voltage monitor, external synchronization capability and thermal protection.

The LTC3603EUF is available in a 4mm x 4mm QFN-16, and the LTC3603MSE is offered in a 16-lead, thermally enhanced MSOP package. Pricing for both package options starts at \$3.80 each in 1,000-piece quantities. Industrial grade versions, the LTC3603IUF and LTC3603IMSE, are guaranteed to operate over the -40°C to 125°C operating junction temperature range and are priced at \$4.47 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:** 2.5A, 15V Synchronous Step-Down DC/DC Converter in a 4mm x 4mm QFN

### **Summary of Features: LTC3603**

- Wide Input Voltage Range: 4.5V to 15V
- 2.5A Output Current
- Low RDS(ON) Internal Switches: 45mOhm and 85mOhm
- Programmable Frequency: 300kHz to 3MHz
- Low Quiescent Current: 75uA
- 0.6V  $\pm$ 1% Reference Allows Precise, Low Output Voltages
- 99% Maximum Duty Cycle
- Adjustable Burst Mode<sup>®</sup> Clamp
- Synchronizable to External Clock
- Power Good Output Voltage Monitor
- Overtemperature Protection
- Overvoltage Protection
- Available in 16-Lead Exposed MSOP and 4mm x 4mm QFN 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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#### **Press Contacts:**

John Hamburger, Director Marketing Communications  
[jhamburger@linear.com](mailto:jhamburger@linear.com)  
Tel: 408-432-1900 ext 2419

Doug Dickinson, Media Relations Manager  
[ddickinson@linear.com](mailto:ddickinson@linear.com)  
Tel: 408-432-1900 ext 2233