



## **Ultralow $V_{IN}$ DC/DC uModule Regulator with Onboard 5V MOSFET Gate Drive Delivers 15A from Inputs Down to $1.5V_{IN}$**

MILPITAS, CA – June 28, 2010 – Linear Technology Corporation introduces the [LTM4611](#), a complete switch mode DC/DC uModule<sup>®</sup> point-of-load regulator capable of generating its own 5V N-channel MOSFET gate drive for very efficient voltage conversion from  $3.3V_{IN}$  or less to loads as low as 0.8V at up to 15A. Alternative traditional low input voltage high power switch mode DC/DC converters with N-channel MOSFETs require a second regulator circuit to provide the 5V gate drive needed for logic level MOSFETs. Conversion efficiencies for the LTM4611 at full load (15A) are 92% for  $3.3V_{IN}$  to  $2.5V_{OUT}$ , 88% for  $2.5V_{IN}$  to  $1.5V_{OUT}$ , and 81% for  $1.5V_{IN}$  to  $0.9V_{OUT}$ . Applications include systems with only 3.3V, 2.8V or 2.5V as the main power rail such as compact data storage and RAID systems, ATCA and optical networking cards, as well as medical and industrial equipment.

The LTM4611 includes the main DC/DC power circuit and the gate drive circuit plus inductors, MOSFETs, input and output bypass capacitors and compensation circuitry in a small 15mm x 15mm x 4.32mm LGA (Land Grid Array) package weighing only 2.6g. The device boasts  $\pm 2\%$  total DC output error over temperature, including line and load regulation as a result of its architecture, precision reference voltage and differential remote sense amplifier-- a key specification for loads such as FPGAs and ASICs that require better than  $\pm 3\%$  voltage accuracy for optimum performance. To increase output capability to 30A, 45A or 60A, two, three or four LTM4611 DC/DC uModule devices can be paralleled to share current.

The LTM4611 is rated for operation over the  $-40^{\circ}\text{C}$  to  $125^{\circ}\text{C}$  operating junction temperature range. The 1,000-piece price starts at \$19.45 each. For more information, visit [www.linear.com/pr/4611](http://www.linear.com/pr/4611).


**Photo Caption:** Ultralow  $V_{IN}$  15A DC/DC uModule® Regulator

## Summary of Features: LTM4611

- Complete DC/DC System-in-a-Package Regulator 15mm x 15mm x 4.32 mm LGA package
- Ultralow  $V_{IN}$ : 1.5V to 5.5V (6V Abs Max)
- 0.8V to 5V Output, 15A
- Differential Remote Sensing for Precision Regulation
- Clock Synchronizable from 360kHz to 710kHz

## 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.

LT, LTC, LTM, uModule and  are registered trademarks of Linear Technology Corp. All other trademarks are the property of their respective owners.

### Press Contacts:

#### North America / Worldwide

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)  
408-432-1900 ext 2233

#### UK & Nordic

Alan Timmins  
[alan@ezwire.com](mailto:alan@ezwire.com)  
Tel: +44-1-252-629937