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## **Quad Synchronous Step-Down DC/DC Converter Delivers Independent 300mA, 2 x 200mA & 100mA Outputs from a 3mm x 3mm QFN**

MILPITAS, CA – April 30, 2007 – Linear Technology announces the LTC3544, a quad channel, high efficiency, 2.25 MHz, synchronous buck regulator that delivers up to 300mA, dual 200mA and 100mA continuous outputs from a 3mm x 3mm QFN package. Using a constant frequency current mode architecture, the LTC3544 operates from an input voltage range of 2.25V to 5.5V, making it ideal for single-cell Li-Ion/polymer, or multicell alkaline/NiCad/NiMH applications. It can generate output voltages as low as 0.8V, enabling it to power the latest generation of low voltage DSPs and microcontrollers. Its 2.25MHz switching frequency enables the utilization of tiny, low cost ceramic capacitors and inductors less than a 1mm in height, which combined with a 3mm x 3mm QFN package, provide a very compact quad output solution.

The LTC3544's Burst Mode<sup>®</sup> operation minimizes quiescent current to only 70uA total for all four channels under no load conditions. For applications that require the lowest noise possible, the LTC3544B uses a pulse skipping mode in lieu of Burst Mode operation for lowest output ripple. Both devices deliver efficiencies as high as 95% and offer shutdown current less than 1uA. The LTC3544 and LTC3544B utilize low dropout 100% duty cycle operation, allowing output voltages equal to  $V_{IN}$ , further extending battery run-time. Each channel has independent enable pins and internal soft-start, further enhancing design flexibility. Other features include short-circuit protection and over-temperature protection.

The LTC3544EUD and LTC3544BEUD are both available from stock in 16-lead

3mm x 3mm QFN packages. Pricing starts at \$2.95 each in 1,000-piece quantities for both versions.


**Photo Caption:** Quad Synchronous Step-Down in 3mm x 3mm QFN

### **Summary of Features: LTC3544/B**

- High Efficiency: Up to 95%
- Four Independent Regulators Provide Up to 300mA, 200mA, 200mA & 100mA Output Current
- 2.25V to 5.5V Input Voltage Range
- 2.25MHz Constant Frequency Operation
- No Schottky Diodes Required
- Low Dropout Operation: 100% Duty Cycle
- Low Ripple ( $<20\text{mV}_{\text{PK-PK}}$ ), High Efficiency Burst Mode Operation: 70uA Quiescent Current During Operation (All Channels On)
- 0.8V Reference Allows Low Output Voltages
- Shutdown Mode Draws  $<1\text{uA}$  Supply Current
- Current Mode Operation for Excellent Line & Load Transient Response
- Overtemperature Protected
- Low Profile (3mm x 3mm) 16-Lead 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, 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](http://www.linear.com)

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