



## **30A, Scalable to 180A, $\mu$ Module Regulator in 9mm x 15mm BGA Package**

MILPITAS, CA – November 16, 2016 – Linear Technology introduces the [LTM4647](#), a 30A step-down  $\mu$ Module (power module) regulator. The LTM4647 includes the inductor, MOSFET, DC/DC controller and supporting components in a 9mm x 15mm x 5.01mm BGA package. The device's conversion efficiency from 12V<sub>IN</sub> to 1V<sub>OUT</sub> at 30A is 87%, when delivering a full 30A continuously without a heat sink or air flow at 70°C ambient. The LTM4647 can deliver up to 180A by current sharing six devices in parallel.

Total output voltage DC accuracy is guaranteed at  $\pm 1.2\%$  over reference, feedback resistor, line, load and temperature ( $-40^{\circ}\text{C}$  to  $125^{\circ}\text{C}$ ), and the onboard remote sense amplifier compensates for the voltage drop caused by trace impedance of the PC board due to large load currents. With its small package size and precise voltage accuracy, the LTM4647 meets the PCB area constraints of densely populated system boards to power low voltage and high current devices such as FPGAs, ASICs, microprocessors and GPUs. Applications include PCIe boards, communication infrastructure, cloud computing-based systems, test and measurement, medical and industrial equipment.

Input voltage range is 4.7V to 15V, and output voltage can be set by an external single resistor ranging from 0.6V to 1.8V. Output voltage tracking and soft-start features allow users to set sequencing with other system rails. The switching frequency can be set by an external single resistor ranging from 400kHz to 700kHz or can be synchronized to an external clock. Fault protection features include overvoltage protection, overcurrent protection, and temperature monitoring.

The LTM4647 operates from  $-40^{\circ}\text{C}$  to  $125^{\circ}\text{C}$ . 1,000-piece pricing starts from \$29.70 each. For more information, visit [www.linear.com/product/LTM4647](http://www.linear.com/product/LTM4647).

**Photo Caption: 30A Step-Down  $\mu$ Module Regulator in 9mm x 15mm BGA Package****Summary of Features: LTM4647**

- 4.7V to 15V Input Voltage Range
- 0.6V to 1.8V Output Voltage Range
- $\pm 1.2\%$  Total DC Output Voltage Error ( $-40^{\circ}\text{C}$  to  $125^{\circ}\text{C}$ )
- Differential Remote Sense Amplifier for Precision Regulation
- Multiphase Current Sharing Up to 180A
- Protection Features: Output Overvoltage, Output Overcurrent, Temperature Monitoring
- 9mm  $\times$  15mm  $\times$  5.01mm BGA Package

Pricing shown is for budgetary use only and may differ due to local duties, taxes, fees and exchange rates.

**About Linear Technology**

Linear Technology Corporation, a member of the S&P 500, has been designing, manufacturing and marketing a broad line of high performance analog integrated circuits for major companies worldwide for over three decades. The Company's products provide an essential bridge between our analog world and the digital electronics in communications, networking, industrial, automotive, computer, medical, instrumentation, consumer, and military and aerospace systems. Linear Technology produces power management, data conversion, signal conditioning, RF and interface ICs,  $\mu$ Module<sup>®</sup> subsystems and wireless sensor network products. For more information, visit [www.linear.com](http://www.linear.com)

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