20A Step-Down µModule Regulator Optimized for Low V_{IN} to Low V_{OUT} Conversion Delivers 88% Efficiency & Only 37°C Temperature Rise

MILPITAS, CA – December 4, 2014 – Linear Technology Corporation introduces the LTM4639, a 20A DC/DC step-down µModule® (micromodule) regulator capable of converting 2.5V to 7V main-power system rails to point-of-load voltages as low as 0.6V with optimum efficiency. In complex rack-mount systems, improved voltage conversion efficiency results in savings in energy consumption, thermal management and equipment size. Applications include cloud-based equipment and RAID systems where 3.3V is preferred as the main power distribution rail.

The LTM4639 is a complete switching point-of-load power supply and includes the inductor, MOSFETs, DC/DC controller and compensation circuitry. It is housed in a 4.92mm height BGA package with a 15mm x 15mm footprint. For 3.3V input to 1.5V output conversion at 20A load, efficiency is 88%, power loss is 3.9W, and junction temperature rise above ambient temperature is 37°C. The micromodule regulator provides a precise output voltage regulation: total DC error of maximum ±1.5%, guaranteed from -40°C to 125°C. Up to four devices can be paralleled for up to 80A output while operating out-of-phase to reduce the number of input and output capacitors.

The LTM4639's input supply range is 2.375V to 7V. For operation from 3.3V and lower, a 5V low power auxiliary supply is needed to bias internal circuitry. Output voltage ranges from 0.6V to 5.5V, with protection functions for overcurrent and overvoltage conditions.

The LTM4639 is rated for operation from -40°C to 125°C. The 1,000-piece price is $19.45 each. For more information, visit www.linear.com/product/LTM4639

Photo Caption: 20A Step-Down µModule Regulator Optimized for Low V_{IN} to Low V_{OUT} Conversion

Summary of Features: LTM4639

- Low Input Supply Range, Targeting 3.3V Input Supply Rails: 2.375V to 7V
- Low Output Voltage Regulation, Targeting Sub-2V & Sub-1V Loads Such as ASICs & FPGAs: 0.6V to 5.5V
- Precision total DC Output Voltage Regulation Over Temperature: ±1.5% Error
- Current Sharing up to 80A with Four Devices in Parallel
- Small Package: 15mm x 15mm x 4.92mm BGA

The USA list pricing shown is for budgetary use only. International prices 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, µModule® subsystems, and wireless sensor network products. For more information, visit www.linear.com

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