



Ideal Diode Bridge Controller Minimizes Rectifier Heat & Voltage Loss

MILPITAS, CA – June 10, 2013 – Linear Technology Corporation introduces the [LT4320](#), an ideal diode bridge controller for 9V to 72V systems that replaces each of the four diodes in a full-wave bridge rectifier with a low loss N-channel MOSFET to significantly reduce the power dissipation and increase available voltage. Power supply size is reduced as the enhanced power efficiency eliminates bulky heat sinks. Low voltage applications benefit from the extra margin afforded by saving the two diode drops inherent in diode bridges. Compared to the traditional alternative, the MOSFET bridge enables a rectifier design that is highly space- and power-efficient. The controller operates from DC to 600Hz.

The LT4320 switch control smoothly turns on the appropriate two MOSFETs, while keeping the other two off to prevent reverse currents. An integrated charge pump provides the gate drive for the external low on-resistance N-channel MOSFETs without requiring external capacitors. The choice of MOSFETs offers the greatest flexibility in power levels ranging from one to thousands of watts.

The LT4320 is available in two options: the LT4320 is designed for DC to 60Hz voltage rectification, whereas the LT4320-1 rectifies DC to 600Hz. Specified over the -40°C to 85°C industrial temperature ranges, the LT4320 is offered in a compact 8-pin 3mm x 3mm DFN package, and a 12-lead MSOP package with enhanced high-voltage pin spacing. Priced beginning at \$2.95 each for 1,000-piece quantities, the device is available today in production quantities. Evaluation circuit boards are available online or from your local Linear Technology sales office. For more information, visit www.linear.com/product/LT4320.

Photo Caption: Active Bridge Rectifier Conserves Power & Voltage**Summary of Features: LT4320**

- Low Loss Replacement for Diode Bridge Rectifier
- Controls N-Channel MOSFETs
- Maximizes Power Efficiency
- Eliminates Thermal Design Problems
- Maximizes Available Voltage
- 9V to 72V Operating Voltage Range
- DC to 600Hz Operation
- 1.5mA Quiescent Current
- -40°C to +85°C Guaranteed Temperature Range
- 8-Pin 3mm x 3mm DFN & 12-Lead MSOP Packages

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 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, μ Module[®] subsystems, and wireless sensor network products. For more information, visit www.linear.com

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