



9V to 72V Ideal Diode Bridge Controller Now Specified from –55°C to 125°C for Military & Automotive Applications

MILPITAS, CA – March 5, 2014 – Linear Technology Corporation announces the automotive (H-grade) and high reliability military ([MP-grade](#)) versions of the [LT4320](#), an ideal diode bridge controller for 9V to 72V systems. The LT4320 replaces a full-wave diode bridge rectifier with a low loss N-channel MOSFET bridge to reduce the power and voltage losses by a factor of ten or more. 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 H- and MP-grade versions are guaranteed over the –40°C to 125°C and –55°C to 125°C temperature ranges, respectively. More information on Linear Technology’s MP-grade flow is available at <http://cds.linear.com/docs/en/quality/mpgrade.pdf>.

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 is optimized for DC to 600Hz by doubling the topside source-drain regulation voltage. The H-grade is offered in 8-pin DFN (3mm x 3mm) and PDIP packages and a 12-lead MSOP package with enhanced high-voltage pin spacing, while the MP-grade is offered in the 12-lead MSOP package only. 1,000-piece H- and MP-grade pricing starts at \$3.45 and \$8.85 each, respectively. Device samples and 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: –55°C to 125°C Rated Active Bridge Rectifier Conserves Power & Voltage

Summary of Features: LT4320H/MP

- Low Loss Replacement for Diode Bridge Rectifier
- Minimizes Heat to Ease Thermal Design
- Maximizes Power Efficiency & Available Voltage
- 9V to 72V, DC to 600Hz Operation
- Controls Four N-Channel MOSFETs
- 1.5mA Quiescent Current
- –40°C to +125°C Guaranteed Junction Temperature Range (H-Grade)
- –55°C to +125°C Guaranteed Junction Temperature Range (MP-Grade)
- 8-Pin DFN (3mm x 3mm), 8-Lead PDIP & 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 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, μ Module[®] subsystems, and wireless sensor network products. For more information, visit www.linear.com

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