



Wide Operating Range Ideal Diode Controller Provides Negative Input Protection & Low Current Operation

MILPITAS, CA – May 31, 2012 – Linear Technology Corporation introduces the [LTC4359](#) high voltage ideal diode controller that offers a simple low loss replacement to Schottky diodes, along with key features targeted for automotive, avionics as well as solar applications. The LTC4359 operates over a wide 4V to 80V supply range and withstands input voltages between -40V to 100V without damage. Operating current is a low 150 μ A, and a shutdown control input enables the LTC4359 to be in a low current shutdown mode, drawing just 13 μ A. In addition, the LTC4359 is guaranteed for operation across the -40°C to 125°C ambient temperature range. These features enable the LTC4359 to protect loads in harsh automotive environments such as during load dump, cold crank, two-battery jumps, and reverse battery connections. When combined with the [LT4363](#) high voltage [Surge Stopper](#), the LTC4359 provides solid front-end protection from overvoltage, overcurrent and reverse battery. Solar systems also benefit from the low operating current of this device, where the LTC4359 can be used to provide a low loss path that isolates the solar panel from the load.

The LTC4359 controls an external N-channel MOSFET to perform the function of a low forward voltage diode. This provides a lower loss path compared to Schottky diodes and in high power applications provides a more efficient solution and preserves precious board space by reducing the need for heat sinking. In addition, control of back-to-back MOSFETs is available to prevent current flowing from input to output during shutdown. The LTC4359 controls the forward voltage drop across the MOSFET to ensure smooth current delivery without oscillation, even under light loads. If a power source fails or is shorted, a fast <1 μ s turn-off minimizes reverse current transients.

The LTC4359 single ideal diode controller can also be used in applications where multiple power supplies are paralleled to provide redundancy. In N+1 redundant systems, an additional supply is added to safeguard the system in the event one of the supplies fail. ORing

the supplies together allow disconnection from the power bus for an input failure or hard short. Additionally, the LTC4359 can be used with a reservoir capacitance to hold up the supply for a period of time after a loss of input power. This enables continuing system operation without resetting or rebooting due to brief interruptions of input power.

The LTC4359 joins a family of ideal diode controllers that includes the single high voltage [LTC4357](#) ideal diode controller, [LTC4355](#) positive diode-OR, [LTC4354](#) negative diode-OR controllers, and the 0V-18V [LTC4352](#) single ideal diode controller. The ideal diode controller portfolio complements Linear's extensive portfolio of surge stoppers and Hot Swap™ controllers, such as the high voltage [LTC4260](#) Hot Swap controller with an internal ADC for extensive system monitoring.

Specified over the commercial, industrial and automotive temperature ranges, the LTC4359 is offered in 2mm x 3mm 6-lead DFN and 8-lead MSOP packages. Available today, pricing begins at \$2.10 each in 1,000 piece quantities. Demo boards and free samples are available online or via your local Linear Technology sales office. For more information, visit www.linear.com/idealdiodes

Photo Caption: High Voltage Ideal Diode Controller Withstands Reverse Voltages

Summary of Features: LTC4359

- Replaces a Power Schottky Diode
- Wide Operating Voltage Range: 4V to 80V
- Reverse Input Protection to -40V
- Low 13µA Shutdown Current
- Low 150µA Operating Current
- Smooth Switchover without Oscillation
- -40°C to 125°C Operation
- 8-Lead MSOP & 2mm x 3mm 6-Lead DFN 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

LT, LTC, LTM, μ Module and  are registered trademarks and Hot Swap is a trademark of Linear Technology Corp. All other trademarks are the property of their respective owners.

Press Contacts:

North America / Worldwide

John Hamburger, Director Marketing
Communications
jhamburger@linear.com
Tel: 408-432-1900 ext 2419

Doug Dickinson, Media Relations Manager
ddickinson@linear.com
Tel: 408-432-1900 ext 2233

UK & Nordic

Alan Timmins
alan@ezwire.com
Tel: +44-1-252-629937