



High Voltage Ideal Diode-OR Controller Provides Higher Efficiency & Smooth Voltage Switchover without Oscillation

MILPITAS, CA – August 27, 2007 – The LTC4357 is a single high voltage ideal diode-OR controller from Linear Technology that offers a simple low loss replacement to the Schottky OR-ing diodes in multiple, N+1 redundant, power supply applications and high availability systems. The LTC4357 controls an external N-channel MOSFET to perform the function of a low forward voltage diode. This provides a lower loss path compared to the Schottky diode that, in high power applications, not only provides a more efficient solution but preserves precious board area by eliminating the need for heat sinking. The LTC4357 controls the forward voltage drop across the MOSFET to ensure smooth switchover from one path to another without oscillation or reverse DC current.

The LTC4357 single diode-OR can be used in applications where multiple power supplies are paralleled to provide load-sharing. In N+1 redundant systems, an additional supply is added to safeguard the system in the event one of the N supplies fail. It is necessary to OR the supplies together to provide isolation for live insertion and removal of converters onto the power bus and to provide isolation from the bus during a hard short. If the power source fails or is shorted, the LTC4357 ensures a fast 0.5us turn-off to minimize reverse current transients. The LTC4357 can also be used to safeguard against reverse voltage events, providing reverse input protection to downstream electronics. Additionally, it can be configured with a Hot Swap™ controller and hold-up capacitor to provide input supply hold-up 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 wide operating range of 9V to 80V supports diode-OR applications with two positive supplies such as a 12V distributed bus architecture or the return paths of two negative supplies such as in -48V AdvancedTCA (ATCA) applications. The LTC4357 tolerates fast dV/dt transients during insertion, providing immunity to latchup.

The LTC4357 joins a family of ideal diode-OR controllers that include the dual LTC4355 positive diode-OR, dual LTC4354 negative diode-OR controllers, and the lower voltage LT4351 single diode-OR controller, as well as Linear's extensive portfolio of Hot Swap controllers, including the LTC4252A with tight UV/OV tolerance and the LTC4261 with an internal ADC for extensive monitoring.

Specified over the commercial and industrial temperature ranges, the LTC4357 is offered in 2mm x 3mm 6-lead DFN and 8-lead MSOP packages. Available today, pricing begins at \$1.70 each in 1,000 piece quantities.

Photo Caption: High Voltage Ideal Diode-OR Controller

Summary of Features: LTC4357

- Replaces Power Schottky Diode
- Controls N-Channel MOSFET
- 0.5us Turn-Off Time Limits Peak Fault Current
- Wide Operating Voltage Range: 9V to 80V
- Smooth Switchover without Oscillation
- No Reverse DC Current
- 8-Lead MSOP & 2mm x 3mm 6-Lead DFN Packages

About Linear Technology

Linear Technology Corporation, a manufacturer of high performance linear integrated circuits, was founded in 1981, became a public company in 1986 and joined the S&P 500 index of major public companies in 2000. Linear Technology products include high performance amplifiers, comparators, voltage references, monolithic filters, linear regulators, DC-DC converters, battery chargers, data converters, communications interface circuits, RF signal conditioning circuits, and many other analog functions. Applications for Linear Technology's high performance circuits include telecommunications, cellular telephones, networking products such as optical switches, notebook and desktop computers, computer peripherals, video/multimedia, industrial instrumentation, security monitoring devices, high-end consumer products such as digital

cameras and MP3 players, complex medical devices, automotive electronics, factory automation, process control, and military and space systems. For more information, visit www.linear.com

LT, LTC, LTM and  are registered trademarks and Hot Swap is a trademark of Linear Technology Corp.

Press Contacts:

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