



News Release | www.linear.com

Dual 4A PowerPath Ideal Diodes Feature Ultralow 15mV Forward Voltage

MILPITAS, CA – November 10, 2011 – Linear Technology Corporation introduces the [LTC4415](#), a monolithic two-channel 4A PowerPath™ ideal diode device designed to reduce heat, voltage drop and board space while preserving battery run time in power switchover circuits. The LTC4415 is ideal for applications requiring an ideal Diode-ORing function for load sharing or automatic switchover between two input power sources. The LTC4415's ultralow 15mV forward voltage is significantly lower than a Schottky diode, thereby extending battery run time and operating voltage range while ensuring no oscillations during supply switchover. Low 50mOhm on-resistance reduces power loss and heat.

The LTC4415 enables two power supplies to operate together with less than 1μA of reverse current flow from the OUT pin back to the IN pin, ensuring highly efficient Diode-ORing of the power sources. The IC operates down to 1.7V and up to 5.5V, aligning well with supercapacitor backup systems and supporting the trend toward lower voltage supply rails. Other applications include systems that typically take power from multiple input sources, such as high current PowerPath switches, uninterruptible power supplies, battery backup systems, emergency systems with battery backups, and logic-controlled power switches, as well as automotive and industrial systems.

The LTC4415's maximum forward current in each ideal diode is adjustable up to 4A for system flexibility, while the IC consumes less than 45μA quiescent current. The ideal diode currents can be monitored via current limit adjust pin voltages. The two ideal diodes are independently enabled and can optionally be prioritized using complimentary inputs EN1 and /EN2 with precision thresholds. If either of the output voltages exceeds its respective input voltage, that ideal diode is turned off, and open drain status pins indicate the conduction status. When the die temperature approaches thermal shutdown, or if the output load exceeds the current limit threshold, the corresponding warning pins are pulled low. Internal thermal limiting circuits protect the device during fault conditions while soft-start limits inrush current at start-up.

The LTC4415 is offered in E and I grades, both rated for operation from -40°C to 125°C in thermally enhanced 16-lead 3mm x 5mm DFN and MSOP packages. 1,000-piece pricing starts at \$2.95 each. For more information, visit www.linear.com/product/LTC4415


Photo Caption: Dual, Monolithic 4A Low Loss PowerPath™ Ideal Diodes

Summary of Features: LTC4415

- Dual 50mOhm Monolithic Low Leakage Ideal Diodes
- 1.7V to 5.5V Operating Range
- Adjustable Current Limit Up to 4A for Each Diode
- 15mV Forward Drop in Regulation
- Low 44µA Operating Current
- Smooth Switchover in Diode ORing
- Load Current Monitor
- Precision Enable Thresholds to Set Switchover
- Soft-Start to Limit Inrush Current on Start-Up
- Status Pins to Indicate Forward Diode Conduction
- Current & Thermal Limit with Warning
- Thermally Enhanced 16-Lead MSOP & DFN (3mm x 5mm x 0.75mm) 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, and µModule® subsystems.

LT, LTC, LTM, µModule and  are registered trademarks and PowerPath 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