



Ideal Diode-OR & Hot Swap Controller Provides Current Monitoring Output

MILPITAS, CA – January 6, 2016 – Linear Technology Corporation introduces the [LTC4236](#), a dual ideal diode-OR and single Hot Swap controller with a load current monitoring output. High availability systems—servers, network routers, and solid-state drives—power circuit boards with multiple power supply feeds. The LTC4236 combines (diode-ORs) two power supplies while providing inrush current control, overcurrent protection, and current monitoring, all in a compact footprint. For supply ORing, low-loss N-channel MOSFETs replace power Schottky diodes and associated heat sinks, reducing voltage drop, power loss and solution area. The downstream Hot Swap MOSFET facilitates safe board insertion and removal from a live backplane, and protects from short-circuit faults with a fast acting current-limited circuit breaker. A low-offset ground-referenced output signal enables load current measurement with an external analog-to-digital converter.

The LTC4236 regulates a low 15mV forward voltage drop across the ideal diode MOSFETs to prevent DC reverse current while ensuring smooth current transfer during supply switchover. Ideal diode fast turn-on and turn-off minimizes output voltage droop and transient reverse current. A diode off input and back-to-back MOSFET capability enable supply prioritization, important when ORing a main supply with a higher voltage auxiliary supply or battery. In an output short-circuit, the LTC4236 further reduces its low 25mV current limit and runs an adjustable timer to limit MOSFET power dissipation. For application flexibility, the connector debounce filter delay is fixed internally or adjustable with an external capacitor.

The LTC4236 is available in two options: the LTC4236-1 remains off after an overcurrent fault, whereas the LTC4236-2 automatically turns on with a 0.15% duty cycle. Specified over the 0°C to 70°C commercial and –40°C to 85°C industrial temperature ranges, the LTC4236 is offered in a 28-pin 4mm x 5mm QFN package. 1,000-piece pricing starts at \$4.25 each. 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/LTC4236.

Photo Caption: Compact Dual Supply ORing & Single Hot Swap Controller with Load Current Monitoring Output


Summary of Features: LTC4236

- Ideal Diode-OR & Inrush Current Control for Redundant Supplies
- Load Current Monitoring Output
- Low Loss Replacement for Power Schottky Diode-OR
 - o Smooth Supply Switchover without Oscillation
 - o Fast $\leq 0.5\mu\text{s}$ Ideal Diode Turn-On/Off
- Enables Safe Board Insertion into a Live Backplane
 - o Adjustable Debounce & Overcurrent-Fault Timers
 - o Fast $0.5\mu\text{s}$ Response to Overcurrent
 - o Current Limit Folds Back to Reduce MOSFET Power Dissipation
- 2.9V to 18V Operating Range
- Fault, Power Good & Diode Status Outputs
- 28-Pin 4mm \times 5mm QFN Package

The USA list pricing shown is for budgetary use only. International prices may differ due to local duties, taxes, fees and exchange rates.

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, $\mu\text{Module}^{\text{®}}$ subsystems, and wireless sensor network products. For more information, visit www.linear.com

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