



## **High Power Negative Supply Ideal Diode-OR Controller Withstands $\pm 300\text{V}$ Transients**

MILPITAS, CA – March 17, 2016 – Linear Technology Corporation introduces the [LTC4371](#), a rugged ideal diode-OR controller for dual feed high power telecom and datacom boards. The LTC4371 provides seamless handoff between redundant power supplies, replacing power Schottky diodes and associated heat sinks with N-channel MOSFETs, significantly reducing power loss, voltage drop and solution size. The controller is designed to withstand  $\pm 300\text{V}$  or higher voltage transients experienced during lightning induced surges, load switching or supply short-circuit, for the most rugged diode-OR solution available. A built-in shunt-regulated supply with low  $350\mu\text{A}$  quiescent current and high impedance drain pins enables large value external resistors to safely limit device current during such high voltage transients. External transient voltage suppressors are eliminated, saving cost and board area.

The LTC4371 serves a low  $15\text{mV}$  forward voltage drop across the ideal diode MOSFETs to minimize power dissipation in high current applications. The linear servo technique blocks DC reverse current while ensuring smooth current transfer during supply switchover. During an input supply short-circuit, transient reverse current is minimized by a powerful  $2\text{A}$  gate turn-off current. A strong  $5\text{mA}$  gate pull-up current ensures rapid turn-on of the MOSFET, enabling AC rectification applications. The large gate currents provide plenty of drive when multiple MOSFETs are paralleled in high current  $50\text{A}$  and  $100\text{A}$  applications. Operating voltage range extends into the hundreds of volts due to the internal shunt regulator, while a  $4.5\text{V}$  minimum supply accommodates low voltage  $-5\text{V}$  and  $-12\text{V}$  ORing applications. Open-circuit failure of the MOSFET or a series fuse is detected and signaled by a fault status output.

Specified over the  $0^{\circ}\text{C}$  to  $70^{\circ}\text{C}$  commercial and  $-40^{\circ}\text{C}$  to  $85^{\circ}\text{C}$  industrial temperature ranges, the LTC4371 is offered in 10-pin MSOP and  $3\text{mm} \times 3\text{mm}$  DFN plastic packages. 1,000-piece pricing starts at  $\$2.50$  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/LTC4371](http://www.linear.com/product/LTC4371).

## **Photo Caption:** Negative Voltage Supply Active ORing Controller


### **Summary of Features: LTC4371**

- Low Loss ORing of Two Negative Voltage Supplies
- Replaces Power Schottky Diodes & Associated Heat Sinks
- Withstands  $> \pm 300\text{V}$  Transients
- Low 15mV Ideal Diode Drop for Reduced Dissipation
- Low 350 $\mu\text{A}$  Quiescent Current
- 100V Rated High Impedance Drain Pins
- Internal Shunt Clamp for High Voltage Applications
- $-4.5\text{V}$  Minimum Operation
- Fast  $< 220\text{ns}$  Reverse Current Turn-Off
- 5mA Gate Pull-Up Current for 60Hz Applications
- Open MOSFET & Open Fuse Detection
- 10-Pin MSOP & 3mm x 3mm DFN Packages

Pricing shown is for budgetary use only and 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,  $\mu\text{Module}^{\circledR}$  subsystems, and wireless sensor network products. For more information, visit [www.linear.com](http://www.linear.com)

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