



## **PowerPath Prioritizer Eases Power System Design with Multiple, Disparate Input Sources & Protects Against Reversed Inputs**

MILPITAS, CA – December 10, 2012 – Linear Technology Corporation introduces the [LTC4417](#), a triple-supply prioritized PowerPath™ controller for 2.5V to 36V systems. The controller selects the highest priority valid supply among three inputs to power the load. Priority is defined by pin assignment, while a supply is considered valid after it has been inside a voltage window set by 1.5% accurate undervoltage and overvoltage thresholds for 256ms. The LTC4417 greatly simplifies designs, deriving power from multiple, disparate voltage sources common in handheld and high availability electronics. In such systems, a prioritizer is a better solution than a simple diode-OR, especially when the preferred power source is not the highest voltage. The LTC4417 controller also protects the load from reversed inputs to –42V.

PowerPath switching is implemented by external back-to-back P-channel MOSFETs protected by integrated 6V gate clamps. Carefully designed fast switch control blocks reverse and cross-conduction current while preventing output voltage droop. A low 28μA operating current, sub-1μA draw from the lower standby supplies, and a shutdown mode make the controller ideal for battery backup systems. The LTC4417's wide operating range accommodates a wide range of power sources such as wall adapters, USB, Firewire, supercapacitors, and batteries such as lead-acid, Li-Ion and stacked NiCd. Built-in cascading support extends the LTC4417 prioritization beyond three supplies. To minimize start-up inrush current, the first connection is soft-started. Open-drain outputs indicate the supplies that are within their valid voltage window. Undervoltage and overvoltage hysteresis is adjustable with a single resistor.

Specified over the full commercial, industrial and automotive temperature ranges, the LTC4417 is offered in 24-pin QFN (4mm x 4mm) and 24-lead narrow SSOP packages. Pricing begins at \$3.05 each for 1,000-piece quantities and the device is available today in production quantities. Evaluation circuit boards are available online or from your local Linear Technology sales office. For more information, visit [www.linear.com/powerpath\\_controllers](http://www.linear.com/powerpath_controllers).


**Photo Caption:** PowerPath™ Controller Selects Highest Priority Valid Input & Protects Against Reversed Inputs

### Summary of Features: LTC4417

- Connects Highest Priority Valid Supply to Output
- 256ms Long, 1.5% Precise Overvoltage & Undervoltage Validation
- Wide Operating Voltage Range: 2.5V to 36V
- –42V Protection Against Reversed Battery
- Blocks Reverse & Cross-Conduction
- Fast Switchover Minimizes Output Voltage Droop
- Low 28µA Operating Current
- <1µA Current Draw from Supplies Less than  $V_{OUT}$
- Adjustable Overvoltage & Undervoltage Hysteresis
- Cascadable for Additional Input Supplies
- Available in 24-Lead Narrow SSOP & QFN 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, µModule® subsystems, and wireless sensor network products. For more information, visit [www.linear.com](http://www.linear.com)

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