



High-Side Power Monitor Measures Both Current and Voltage up to 80V

MILPITAS, CA – February 18, 2008 – Linear Technology Corporation introduces the LTC4151, a high side power monitor that measures current and input voltages from 7V to 80V. The LTC4151 utilizes an internal 12-bit ADC to continuously measure both high side current and input voltage to give a true power reading. The LTC4151 replaces prior solutions that use costly current sense amplifiers with a separate ADC, a hot-swap controller with an ADC, or an ADC with a floating ground. These older implementations are in many cases limited by the ADC's input voltage range (typically 5V or 10V), are much more expensive, require more board space, and are not reliable. The LTC4151's simple, single-chip solution is ideal for 48V telecom equipment, advanced mezzanine cards (AMC), and blade servers used for measuring input power over a wide input range. The device is also appropriate for power monitoring in industrial applications running at 12V or 24V.

The maximum total unadjusted error (TUE) for the high-side current and voltage measurements is $\pm 1.25\%$ over the -40°C to $+85^{\circ}\text{C}$ industrial temperature range. A 2-wire I²C-compatible interface reports the LTC4151's input power data, as well as a third low voltage input, which can be used to measure a voltage from a thermistor or a fuse. Data can be reported continuously or in a no-latency single snapshot mode, for applications that only need to measure input power occasionally. The LTC4151 features a dedicated shutdown pin to reduce power dissipation by 10x, while its counterpart, the LTC4151-1, features split I²C data pins with an inverted output to drive optoisolators.

The LTC4151 and LTC4151-1 are both available today in tiny MSOP-10 and 3mm x 3mm DFN-10 packages, with pricing beginning at \$2.60 in 1,000-piece quantities.


Photo Caption: High-Side Power Monitor Measures Both Current and Voltage up to 80V

Summary of Features: LTC4151

- Wide Operating Voltage Range: 7V to 80V
- 12-Bit Resolution for Both Current and Voltages
- 2-Wire I²C Interface
- Low Voltage Auxiliary ADC Input
- No-Latency Single-Reading Snapshot Mode
- Shutdown Mode Reduces Supply Current to 120uA (LTC4151)
- Individual Data Input/Output Lines for Optoisolation (LTC4151-1)
- Small footprint MSOP-10 and 3mm x 3mm DFN-10 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, uModule™ products, 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.

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