



## **105V High Side Current Sense Amplifier with 10uV Offset & Zero Drift**

MILPITAS, CA – July 18, 2007 – Linear Technology announces the LTC6102, the most precise high side current sense amplifier available. Maximum input offset voltage of the LTC6102 is only 10uV and it can accept differential sense voltages up to 2V. The resulting 106dB of dynamic range allows the LTC6102 to resolve micro-amps from amps of current. Compared to other current sense amplifiers, the dramatically lower offset of the LTC6102 allows for proportionately lower sense resistance without sacrificing resolution. Lower sense resistance means less wasted power and heat. The precision of the LTC6102 is bolstered by a near zero guaranteed input offset drift of less than 50nV/°C and a guaranteed input bias current of less than 3nA.

External resistors, selected by the designer, determine gain, gain accuracy and gain drift, and using precision resistors enables gain accuracy better than 99%. The topology of the LTC6102 allows the designer to customize power consumption, response time and the input/output impedance characteristics for the application. Furthermore, the LTC6102 has a 1us response time, allowing it to initiate fault protection or power shutdown in the event of unexpected load or supply current surges.

“The LTC6102 breaks new ground by applying LTC’s zero-drift technology to high side current sensing,” says Mike Kultgen, design manager for Linear Technology. “As a result, the LTC6102 will enable significantly more accurate current measurements and control applications.”


Two versions provide the choice of common mode voltage: the LTC6102 operates with inputs up to 70V, and the LTC6102HV operates with inputs up to 105V. Both versions are in full production, with prices starting at \$1.72 each in 1,000-piece quantities.

**Photo Caption: Zero-Drift High Side Current Sense Amplifier****Summary of Features: LTC6102**

- Extremely Low Offset Voltage: 10uV (Max)
- Extremely Low Offset Drift: 50nV/°C (Max)
- 4V to 60V Operation, 70V ABS MAX (LTC6102)
- 5V to 100V Operation, 105V ABS MAX (LTC6102HV)
- 1us Response Time
- Low Input Bias Current: 3nA Max
- Gain Configurable with 2 Resistors
- Output Current up to 1mA
- 130dB Min PSRR
- -40°C to 125°C Operating Temperature Range
- 3mm x 3mm DFN, MSOP8 Package

**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, 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](http://www.linear.com)

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**Press Contacts:**

John Hamburger, Director Marketing Communications  
[jhamburger@linear.com](mailto:jhamburger@linear.com)  
Tel: 408-432-1900 ext 2419

Doug Dickinson, Media Relations Manager  
[ddickinson@linear.com](mailto:ddickinson@linear.com)  
Tel: 408-432-1900 ext 2233

