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## **Micropower 50mA Linear Regulator Withstands 80V Input and Offers PowerGood Status Signaling with Programmable Delay**

MILPITAS, CA – August 28, 2008 – Linear Technology Corporation announces the LT3011, a high voltage micropower, low dropout regulator that delivers up to 50mA of continuous output current with a low dropout voltage of only 300mV at full load. The LT3011 features an input voltage range of 3V to 80V, delivering output voltages as low as 1.24V and up to 60V. The device's PowerGood flag indicates output regulation. However, a single capacitor may be used to program the delay between this regulated output level and the flag indication. The 80V input voltage capability makes it ideal for automotive applications, 48V telecom backup supplies and industrial control applications. Low quiescent current of 46uA (operating) and 1uA (in shutdown) make it an excellent choice for battery-powered "keep alive" systems that require optimum run time.

Output noise is minimized at only 100uV<sub>RMS</sub> over a 10Hz to 100kHz bandwidth, making the LT3011 ideal for noise-sensitive applications. For high voltage applications that require large input-to-output voltage differentials, the LT3011 provides a very compact solution. Its thermally enhanced MSOP and DFN packages offer thermal resistance equivalent to much larger conventional packages.

The LT3011 is able to operate with very small, low cost, ceramic output capacitors. It is stable with only a 1uF output capacitor while older linear regulators require between 10uF and 100uF to maintain stability. These tiny external capacitors can be used without the necessary addition of series resistance (ESR) as is common with many other regulators. Internal protection circuitry includes reverse-battery protection, current limiting, thermal limiting, and no reverse current flow from output to input.

The LT3011E and LT3011I are available from stock in a proprietary 12-lead thermally enhanced MSOP package and a 10-lead 3mm x 3mm DFN package, both with operating junction temperature of -40°C to +125°C. The LT3011H is available in the MSOP package only and is

rated up to +150°C operating junction temperature. Pricing starts at \$1.75, \$1.93 and \$2.26 each for the E, I and H grades, respectively, in 1,000-piece quantities.

**Photo Caption:** 80V Supply Capable 50mA LDO with Programmable PowerGood

### Summary of Features: LT3011

- Wide Input Voltage Range: 3V to 80V
- Low Quiescent Current: 46uA
- Low Dropout Voltage: 300mV
- Output Current: 50mA
- PowerGood (PWRGD Pin) Flag with Programmable Delay
- Adjustable Output Voltage: 1.24V to 60V
- No Protection Diodes Required
- Stable with 1uF Ceramic Capacitors
- Reverse Battery Protection
- No Reverse Current Flow from Output to Input
- Low Shutdown Current <1uA
- Thermal Limiting & Current Limiting
- Thermally Enhanced MSOP-12E & 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](http://www.linear.com).

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