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Programmable 200mA Linear Regulator Features 0V Output Operation, Bulletproof Protection & Is Easily Paralleled

MILPITAS, CA – August 19, 2009 – The latest member of a next-generation family of linear regulators, adjustable down to 0 volts with a single resistor and easily paralleled for higher current, is now available from Linear Technology Corporation. The LT3082 200mA PNP low dropout regulator (LDO) features a new architecture using a current reference and voltage follower. This architecture permits the paralleling of multiple regulators and sharing of output current using small amounts of PCB trace as ballast resistors. Current sharing spreads the heat in an all-surface-mount system. Extensive protection features include current limiting and thermal limiting as well as reverse input protection for the regulator and the load.

The LT3082 achieves superior performance over prior regulators. Its regulation is independent of output voltage, and it operates up to 40V with output noise of only 40uV_{RMS} over a wide 10Hz to 100kHz bandwidth. The low TC current reference allows single resistor adjustment of output voltage, and the device is stable with a 2.2uF ceramic or electrolytic capacitor on the output. Minimum operating current is only 0.5mA.

According to Linear Technology's Senior Product Marketing Engineer Steve Knoth, "The LT3082 regulator provides designers a low current, all-surface-mount regulator where a linear, low noise output is needed for applications such as high-frequency serial data links or where paralleling for higher current and heat spreading eases surface mount design. With its ability to provide zero output, this versatile device can control powering down parts of the system."

The LT3082 is offered in three packages: the low profile (0.75mm) 8-lead DFN (3mm x 3mm), the 8-pin SOT-23 and the 3-pin SOT-223. Both the LT3082E and LT3082I feature an operating junction temperature of -40°C to +125°C, while the LT3082MP operates from -55°C to +125°C junction temperature. 1,000 piece pricing starts at \$1.40 and \$1.56 for the DFN and SOT-23 packages in E and I grades, respectively; \$1.50 and \$1.67 for the

SOT-223 package in E and I grades and \$4.05 for the SOT-223 in the MP grade. For more information, visit www.linear.com.


Photo Caption: Single-Resistor Set 200mA Linear Regulator

Summary of Features: LT3082

- Single-Resistor Voltage Set Capability
- Output Current: 200mA
- No Current Foldback
- Output Voltage Adjustable Down to 0V
- Wide V_{IN} Range: 1.2V to 40V
- Low Output Noise: 40 μ V_{RMS} (10Hz to 100kHz)
- Reverse Battery & Reverse Current Protection
- Initial Current Reference Accuracy: $\pm 1.0\%$
- Internal Overcurrent Limit & Thermal Shutdown Protection
- Packages: 3mm x 3mm DFN-8, 8-Lead SOT-23 & 3-Lead SOT-223

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.

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Press Contacts:

North America / Worldwide

John Hamburger, Director Marketing
Communications
jhamburger@linear.com
Tel 408-432-1900 ext 2419

UK & Nordic

Alan Timmins
alan@ezwire.com
Tel: +44-1-252-629937

Doug Dickinson, Media Relations Manager
ddickinson@linear.com
408-432-1900 ext 2233