



High Voltage, Low Dropout Linear Regulators Operate Down to -55°C

MILPITAS, CA – June 17, 2010 – Linear Technology Corporation announces new wider temperature range versions of its [LT1763](#), [LT3008](#) and [LT3010](#) high voltage linear regulators. The new high reliability “MP” grade features operation from -55°C to +125°C for a wide range of applications including avionics, military, industrial, automotive, RF and telecom.

The LT1763 is a 500mA LDO featuring less than 20uV_{RMS} output noise over a 10Hz to 100kHz bandwidth using only a tiny 0.01uF bypass capacitor. Supply current is only 30uA and is reduced to less than 0.5uA in shutdown mode, virtually eliminating battery drain. The device operates from a 1.8V to 20V input supply, providing compatibility with a wide variety of input power sources, and its output voltage is adjustable between 1.22V and 20V. The LT1763 can also operate with capacitors as small as 3.3uF and is stable using any capacitor type, including ceramic, tantalum, or aluminum electrolytic. This results in a small, low-cost solution for space-constrained applications. The device’s internal protection circuitry includes reverse-battery protection, no reverse current, current limiting and thermal limiting.

The LT3008 is a 20mA LDO with ultra-low quiescent current of only 3uA. It features high input voltage capability, spanning 2.0V to 45V with an adjustable output voltage ranging from 0.6V to 36V, in addition to fixed output voltage versions of 1.2V, 1.5V, 1.8V, 2.5V, 3.3V and 5V. The device delivers low dropout voltage of only 300mV. Output tolerance is tightly regulated to within ±2% over line, load and temperature. The LT3008 regulator optimizes stability and transient response with low ESR, ceramic output capacitors as small as 2.2uF. These tiny external capacitors can be used without series resistance, commonly required with alternative regulators. The IC’s internal protection circuitry includes reverse-battery protection, reverse output and reverse current protection, current limiting and thermal limiting.

The LT3010 is a high voltage micropower, low dropout regulator that can deliver up to 50mA of continuous output current. The device operates at input voltages from 3V to 80V, delivering output voltages as low as 1.275V. The LT3010-5 provides a fixed 5V output. Low

quiescent current of 30uA (operating) and 1uA (in shutdown), also make it an excellent choice for battery-powered “keep alive” systems that require optimum run time. For high voltage applications that require large input-to-output voltage differentials, the LT3010/-5 offers a very compact solution. Its thermally enhanced MSOP-8 package offers thermal resistance equivalent to much larger conventional packages. Internal protection circuitry includes reverse-battery protection, current limiting, thermal limiting, and reverse current protection.

The LT1763MP is offered in 2 packages: a thermally enhanced, 12-lead 4mm x 3mm DFN package and an 8-lead SOIC package, with the same 1k pricing of \$5.95 each. The LT3008MP is available in a thermally enhanced 8-lead TSOT-23 package with pricing of \$3.78 each in 1000-piece quantities. The LT3010MP and LT3010-5MP are housed in a thermally enhanced 8-lead MSOP package with the same pricing of \$4.65 each at 1000 pieces. All are in stock. For more information, visit www.linear.com.

Photo Caption: High Voltage MP Grade LDO's

Summary of Features: LT1763 “MP” Grade

- Quiescent Current: 30uA
- Output Current: 500mA
- Input Voltage: 1.8V to 20V
- Dropout Voltage: 300mV at Full Load
- Adjustable Output from 1.22V to 20V
- Low Noise: 20uV_{RMS} (10Hz to 100kHz)
- Stable with Ceramic, Aluminum, or Tantalum Capacitors
- Thermally Enhanced 12-Lead 4mm x 3mm DFN and 8-Lead SOIC Packages

Summary of Features: LT3008 “MP” Grade


- Ultralow Quiescent Current: 3uA (Typ)
- Output Current: 20mA
- Input Voltage: 2.0V to 45V
- Dropout Voltage: 300mV Typical at Full Load
- Adjustable V_{OUT}: 0.6V to 36V
- Output Tolerance: ±2% Over Line, Load & Temperature
- Stable with Low-ESR, Ceramic Output Capacitors (2.2uF minimum)
- Shutdown Current: <1uA
- Reverse-Battery, Reverse Output & Reverse Output-to-Input Protection
- Thermal Limit & Current Limit Protection
- 8-Pin Thermally Enhanced TSOT-23 Package

Summary of Features: LT3010/-5 “MP” Grade

- Quiescent Current: Only 30uA
- Output Current: 50mA
- 3V to 80V Input Voltage Range
- Dropout Voltage: 270mV
- Adjustable (down to 1.275V Output) or Fixed 5V Output
- Stable with 1uF Ceramic Capacitors
- Reverse Battery Protection
- Low Shutdown Current <1uA
- Thermally Enhanced MSOP-8E 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, 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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