



45V 500mA LDO Offers 25 μ V_{RMS} Noise, Programmable Current Limit & Power Good

MILPITAS, CA – January 27, 2014 – Linear Technology Corporation announces the [LT3065](#), a high voltage, low noise, low dropout voltage linear regulator offering precision, programmable current limit and a power good flag. The device delivers up to 500mA output current with a 300mV dropout voltage at full load. It features a wide 1.8V to 45V input voltage range and output voltage is adjustable from 0.6V to 40V. A single REF/BYP pin capacitor provides low noise operation-only 25 μ V_{RMS} across a 10Hz to 100kHz bandwidth, and also reference soft-start functionality, preventing output voltage overshoot at turn-on. Output voltage tolerance is highly accurate at $\pm 2\%$ over line, load and temperature.

The LT3065 operates with a very small, low cost, 3.3 μ F ceramic output capacitor, optimizing stability and transient response. The LT3065 PWRGD flag indicates output regulation. One resistor programs the external precision current limit ($\pm 10\%$ over temperature). Moreover, the device's internal protection circuitry includes reverse-battery protection, reverse-output protection, reverse-current protection, current limit with foldback, and thermal limiting. The device's wide input and output voltage ranges, fast transient response, low quiescent current of 55 μ A (operating) and <1 μ A (in shutdown) make it an excellent choice for industrial power supplies, avionic power supplies, automotive power supplies, battery-powered systems and instruments requiring optimum run time, and high reliability power supplies requiring more extensive protection.

The LT3065 is available in thermally enhanced 10-lead 3mm x 3mm DFN and 12-lead MSOP packages, both with a compact footprint. The E- and I-grade versions are available from stock with an operating junction temperature of -40°C to +125°C, H grade is rated from -40°C to +150°C, and the MP-grade version is specified from -55 to +150°C. 1,000 piece pricing starts at \$1.85 each for the E-grade. For more information, visit www.linear.com/product/LT3065


Photo Caption: 45V_{IN}, 0.6V_{OUT} 500mA Ultralow Noise LDO with Power Good Flag

Summary of Features: LT3065

- Output Current: 500mA
- Dropout Voltage: 300mV
- Input Voltage Range: 1.8V to 45V
- Programmable Precision Current Limit: \pm 10%
- Low Quiescent Current: 55 μ A
- Power Good Flag
- Low Noise: 25 μ V_{RMS} (10Hz to 100kHz)
- Adjustable Output Voltage: 0.6V to 40V
- Single Capacitor Soft-Starts Reference & Lowers Output Noise
- Output Tolerance: \pm 2% Over Line, Load & Temperature
- Stable with Low ESR, Ceramic Output Capacitors (3.3 μ F minimum)
- Current Limit Foldback Protection
- Shutdown Current: <1 μ A
- Reverse Battery & Thermal Limit Protection
- 10-Lead 3mm \times 3mm DFN & 12-Lead MSOP Packages

About Linear Technology

Linear Technology Corporation, a member of the S&P 500, has been designing, manufacturing and marketing a broad line of high performance analog integrated circuits for major companies worldwide for over three decades. The Company's products provide an essential bridge between our analog world and the digital electronics in communications, networking, industrial, automotive, computer, medical, instrumentation, consumer, and military and aerospace systems. Linear Technology produces power management, data conversion, signal conditioning, RF and interface ICs, μ Module[®] subsystems, and wireless sensor network products. For more information, visit www.linear.com

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