



## **36V, 800mA Robust Linear Regulator Has Extended SOA & Offers Simple 3-Terminal Operation**

MILPITAS, CA – June 4, 2015 – Linear Technology Corporation announces the [LT3088](#), a rugged 800mA wide input voltage range linear regulator. The device has an extended safe operating area (SOA) compared to existing regulators, making it ideal for high input-to-output voltage and high output current applications where older regulators limit the output. The LT3088 uses a current source reference for single resistor output voltage settings and output adjustability down to 0. This regulator architecture, combined with low millivolt line and load regulation, enables multiple ICs to be paralleled easily for heat spreading and higher output current.

The LT3088 achieves unmatched line and load regulation of under 2mV independent of output voltage and features an input voltage range from 1.2V to 36V. The device fits well in applications requiring multiple rails. Output voltage is programmable with a single resistor from 0V to 34.5V with a 1.2V dropout. The on-chip trimmed 50 $\mu$ A current reference is  $\pm 1\%$  accurate. The regulation, transient response and output noise (27 $\mu$ V<sub>RMS</sub>) are independent of output voltage due to the device's voltage follower architecture. The LT3088 is easily configurable as a 3-terminal regulator, its SOT-223 and DD-Pak packages matching industry standard pinouts such as the LT1117, but with superior performance. Input or output capacitors for stability are optional in either linear regulator mode or current-source mode of operation. The LT3088's internal protection circuitry includes reverse-input protection, reverse-current protection, internal current limiting and thermal shutdown.

According to Robert Dobkin, Linear Technology's Vice President, Engineering and CTO, "The LT3088 regulator's robust architecture and protection features provide designers with new tools for reliable design. A DD-Pak package for high power dissipation and various surface mount packages for lower power applications are available. The device is easily configurable as a 3-terminal regulator, with far superior performance to devices of the past."

The LT3088 is offered in a variety of thermally enhanced surface mount compatible packages, including a low profile (0.75mm) 8-lead 3mm x 3mm DFN, a 3-lead SOT-223 and a 3-lead DD-Pak, allowing power dissipation up to 2W in surface mount applications with no heat sink. A wide variety of grades/temperature ranges are offered including: E and I grades  $-40^{\circ}\text{C}$  to  $125^{\circ}\text{C}$ , high reliability H grade  $-40^{\circ}\text{C}$  to  $150^{\circ}\text{C}$  and the military MP grade  $-55^{\circ}\text{C}$  to  $150^{\circ}\text{C}$ . 1,000-piece pricing starts at \$1.95 each for the E grade. For more information, visit [www.linear.com/product/LT3088](http://www.linear.com/product/LT3088)

**Photo Caption:** Rugged, 36V Wide SOA 800mA Linear Regulator

### Summary of Features: LT3088

- Rugged Industrial Linear Regulator
- Wide Safe Operating Area at 800mA Output
- Wide Input Voltage Range: 1.2V to 36V
- Single Resistor Sets Output Voltage 0 to 34.5V
- 50 $\mu\text{A}$  SET Pin Current: 1% Initial Accuracy
- Paralleled Easily for Higher Current or Heat Spreading
- Easily Configured as a 3-Terminal Regulator (LT1117 Pin-Compatible)
- Input or Output Capacitors Optional
- <1mV Load Regulation Typical
- <0.001%/V Line Regulation Typical
- Current Limit, Thermal Shutdown & Reverse-Input Protection
- Available in Thermally Enhanced 8-Lead 3mm x 3mm DFN, 3-Lead SOT-223, & 3-Lead DD-Pak Packages

The USA list pricing shown is for budgetary use only. International prices may differ due to local duties, taxes, fees and exchange rates.

## 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,  $\mu$ Module<sup>®</sup> subsystems, and wireless sensor network products. For more information, visit [www.linear.com](http://www.linear.com)

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