



Surface Mount 500mA LDO Is Easily Paralleled Without Hot Spots

MILPITAS, CA – October 6, 2008 – Linear Technology Corporation announces the LT3085, the latest member of a family of next-generation NPN LDOs that can be easily paralleled for heat spreading and are adjustable down to “0” volts with a single resistor. This new architecture regulator uses a current reference rather than a conventional voltage reference to allow sharing between multiple regulators by directly paralleling the pins. Current sharing is set with a small length of PC trace as ballast, enabling multi-amp linear regulation in all surface-mount systems without heat sinks.

The LT3085 achieves high performance without any compromises. Featuring 500mA output current and wide input voltage capability from 1.2V to 36V, it has a low dropout voltage of only 275mV at full load. The output voltage is adjustable, spanning a wide range from 0V to 35V, and the on-chip trimmed current reference achieves an accuracy of $\pm 1\%$. The wide V_{IN} and V_{OUT} capability, low external parts count and parallel capability make it ideal for modern multirail systems. Output voltage noise is a low 33uVrms over a wide bandwidth of 10Hz to 100kHz. Protection features include current limiting with foldback and thermal limiting.

According to Linear Technology’s VP/CTO Robert Dobkin, “The LT3085 regulator offers designers another all-surface-mount solution in applications requiring a high current, low noise output such as high-frequency serial data links, where it is undesirable to add heat sinks. With its ability to provide zero output, this versatile device can control powering down parts of the system.”

The LT3085 is offered in two high power density packages: the low profile (0.75mm) 6-lead DFN (2mm x 3mm) and 8-pin thermally enhanced MSOP. These packages can dissipate 1W to 2W in surface mount applications without a heat sink. The LT3085E and LT3085I feature an operating junction temperature of -40°C to $+125^{\circ}\text{C}$, while the LT3085MP (MSOP package only) features operation down to -55°C junction temperature. 1,000 piece pricing starts at \$1.73

and \$1.90 for the DFN package in E and I grades respectively, and at \$1.83, \$2.00 and \$4.94 for the MSOP package E, I and MP grades, respectively.


Photo Caption: Next-Generation, Single-Resistor, Easily Paralleled 0.5A LDO

Summary of Features: LT3085

- Outputs May be Paralleled for Higher Output Current or Spreading PCB Heat
- Low Dropout Voltage: 275mV
- Low Noise: 33 μ V_{RMS} Wideband (100kHz)
- Stable 10 μ A Current Source Reference
- Single-Resistor Programs V_{OUT}
- Adjustable V_{OUT} Range: 0V to 35V
- Wide V_{IN} Range: 1.2V to 36V
- Output Current: 0.5A
- Stable with Ceramic, Aluminum, or Tantalum Capacitors
- Current Limiting with Foldback
- Thermal Limiting
- 6-Lead Low-Profile DFN (2mm x 3mm x 0.75mm) Package
- Thermally Enhanced 8-Lead MSOP 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. For more information, visit www.linear.com.

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