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Boost & Inverting DC/DC Converter for Active Matrix OLED & CCD Bias

MILPITAS, CA – May 27, 2009 – Linear Technology announces the LT3582, LT3582-5 and LT3582-12 dual channel DC/DC converters which deliver both positive and negative outputs required in many biasing applications such as active matrix OLED (organic light-emitting diode) displays as well as CCD (charge coupled device) applications. The LT3582/-5/-12 offer an I²C interface that can dynamically program output voltages, power sequencing and output voltage ramps as the application requires. Alternatively, these parameters can be set in manufacturing and made permanent via the built in non-volatile OTP (one time programmable) memory. The LT3582's positive output voltage can be set between 3.2V and 12.775 in 25mV steps, whereas the negative output can be set between -1.2V and -13.95V in 50mV steps. The LT3582-5 and LT3582-12 are preconfigured with $\pm 5V$ and $\pm 12V$ outputs respectively, useful in many signal conditioning applications.

The LT3582 series includes two monolithic converters, one boost and one inverting. The boost converter has an integrated power switch and output disconnect switch, whereas the inverting converter uses a single inductor topology with an integrated power switch. Both boost and inverting converters use a novel control scheme resulting in low output voltage ripple and allowing for high conversion efficiency over a wide load current range. The LT3582/-5/-12's input voltage range of 2.55V to 5.5V make them ideal for Li-Ion powered applications with efficiencies as high as 88%. These features, when combined with less than 325uA of quiescent current, the LT3582 series can maximize battery life. The combination of tiny external components, no feedback resistors and a tiny 3 x 3mm QFN package provides a tiny (<50mm) solution footprint for handheld biasing applications.

The LT3582EUD, LT3582EUD-5 and LT3582EUD-12 are all available from stock in a 3mm x 3mm QFN package. Pricing starts at \$2.25 each for 1,000-piece quantities. For more information, visit www.linear.com.


Photo Caption: Boost & Inverting DC/DC Converter for active matrix OLED & CCD Bias

Summary of Features: LT3582

- Output Voltages: 3.2V to 12.775V and –1.2V to –13.95V (LT3582)
- 5V and –5V (LT3582-5)
- 12V and –12V (LT3582-12)
- Digitally Reprogrammable (LT3582) Via I²C for: Output Voltages, Power Sequencing, Output Voltage Ramp Rates
- Power-Up Defaults Settable with Non-Volatile OTP (LT3582)
- I²C Compatible Interface (Standard Mode*)
- All Power Switches Integrated
- 350mA Current Limit (Boost)
- 600mA Current Limit (Inverting)
- All Feedback Resistors Integrated
- Input Voltage Range: 2.55V to 5.5V
- Low Quiescent Current: 325uA in Active Mode, 0.01uA in Shutdown Mode
- Integrated Output Disconnect
- Tiny 16-Pin 3mm × 3mm QFN 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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