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Dual Boost Plus Inverting DC/DC Converter for CCD/LCD Applications in a 3mm x 3mm QFN

MILPITAS, CA – September 23, 2008 – Linear Technology announces the LT3587, a triple channel (dual boost plus inverter), $\pm 32\text{V}$, 1MHz DC/DC converter with output disconnect. Its internal 800mA boost and 900mA inverter can deliver up to 50mA at 15V and 100mA at -8V from a Li-Ion cell, providing bias for the latest generation of CCD (Charge-Coupled Device) imagers and LCD displays. Additionally, its second 400mA boost channel generates either a constant current to a string of up to six 20mA white LEDs for LCD backlighting, or a constant voltage to bias an OLED display. Its input voltage range of 2.5V to 6V enables it to be powered from Li-Ion to multiple cell Alkaline/NiMH batteries. Switching at a constant 1MHz, the LT3587 uses tiny, low profile capacitors and inductors and generates low noise outputs that are easy to filter. Output voltages can be set with only one resistor per channel, reducing external component count. Packaged in a 3mm x 3mm QFN, the entire solution has less than a 1mm profile and occupies just 50mm².

The LT3587 uses an intelligent soft-start circuit that allows for the sequential powering of the Boost1 output, followed by the Inverting output with a single capacitor. Internal sequencing circuitry also disables the inverter until the Boost1 output has reached 87% of its final value, optimizing system reliability.

The LT3587EUD is available from stock in a 20-lead 3mm x 3mm QFN package. Pricing starts at \$2.95 each for 1,000-piece quantities.


Photo Caption: Dual Boost & Inverting DC/DC Converter for CCD/LCD Applications

Summary of Features: LT3587

- Ideal for CCD, LCD, LED Backlight & OLED Applications
- Easy Generation of 15V (50mA), -8V (100mA) & 20V (20mA) from a Li-Ion Cell
- V_{IN} Range: 2.5V to 6V
- Wide Output Ranges: Up to 32V for the Boosts & Up to -32V for the Inverter
- Output Disconnect for the Boost Channels
- Boost3 Allows Voltage Programming and/or Current Programming for a "One Wire Current Source"
- Overload Fault Protection with Fault I/O Pin Indicator
- Combined Soft-Start & Enable Pins
- Small 20-Pin 3mm x 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. For more information, visit www.linear.com.

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