

***LTC News for Immediate Release***

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**www.linear.com**

**Quad DC/DC Converter for  
Triple Output TFT Supply and LED Backlighting**

MILPITAS, CA – December 9, 2004 – Linear Technology Corporation announces the LT1942, a highly integrated quad switching regulator designed to provide all necessary power supply functions for TFT displays and their required white LED backlighting. The LT1942, packaged in a 4mm x 4mm QFN was designed to power 2” to 7” TFT-LCD panels in applications ranging from PDAs to automotive GPS displays. It operates from an input voltage range of 2.6V to 16V, making it ideal for applications ranging from Li-Ion powered handhelds to automotive applications. Its 1MHz switching frequency provides low noise operation by keeping external components tiny and providing a compact solution footprint and profile

The TFT supply incorporates two boost and one inverting DC/DC converters. The TFT supply output voltages are independently set, unlike charge pump solutions which have several limitations, enabling greater flexibility in TFT-LCD designs. In order to make the solution as compact as possible, schottky diodes have been integrated into the device. Additional features include programmable power sequencing, soft-start, power good and output disconnect.

The LED driver is a boost DC/DC converter that can be independently controlled. The LED driver has built-in dimming control for precise control of LED current. An 8:1 dimming range is achieved by adjusting the control voltage. The user can elect to drive a single string (6 LEDs) or two strings of LEDs (12 LEDs). An LED ballast circuit is included to precisely match the LED currents if two strings of LEDs are used. Both soft-start and open LED protection are built into the LED driver.

(more...)

The LT1942 is available in a 4mm x 4mm QFN-24 available from stock. Pricing starts at \$2.75 each for 1,000-piece quantities.

### Summary of Features: LT1942

- Triple Output TFT Supply with Built-In Power Sequencing
- Integrated White LED Backlight Driver
- Integrated Schottky Diodes
- Active Ballast Circuitry Ensures Precise Current Matching in White LEDs
- Low Noise 1MHz Fixed Frequency Operation
- 2.6V to 16V Input Voltage Range
- Soft-Start Limits Inrush Current
- TFT Supply Output Voltages Independently Set
- Power Good and Output Disconnect for TFT Supply
- Built-In LED Dimming Capability
- Open LED Protection for LED Driver
- 24-Lead (4mm x 4mm x 0.75mm) QFN Package

COMPANY BACKGROUND: Linear Technology Corporation was founded in 1981 as a manufacturer of high performance linear integrated circuits. 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, 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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READER SERVICE: Call toll-free 1-800-4-LINEAR (for literature only).

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