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32-Channel 30mA Buck LED Driver with DOT Correction & Gray Scale Dimming

MILPITAS, CA – April 5, 2011 – Linear Technology announces the [LT3746](#), a 32-channel LED driver integrated with a 55V step-down controller. The LED driver powers up to 30mA of LED current for each channel, which can drive up to 13V of LEDs in series, making it ideal for applications such as large LED billboards. Each channel has individual 6-bit dot correction current adjustment and 12-bit gray scale PWM dimming. Combined with a 0.5µs minimum LED on-time, the LT3746 offers very wide dynamic contrast ratios. Both dot correction and gray scale dimming are accessible via a serial interface in TTL/CMOS logic. The LT3746's 6V to 55V input voltage range makes it ideal for a wide range of input sources found in commercial and industrial designs, typically between 12V and 48V. The combination of minimal externals and a 5mm x 9mm QFN package provide a highly compact solution footprint for multichannel LED applications.

The LT3746's internal buck controller generates an adaptive bus voltage slightly higher than the parallel LED strings to deliver efficiencies over 90%. 32 individual linear current sinks regulate and modulate individual LED strings, offering a wide range of functionality in a compact solution footprint. The LT3746 performs full diagnostics and protection against open/short LED and overtemperature faults, with the fault status sent via the serial data interface. The 30MHz fully buffered, skew-balanced, cascadable serial interface makes the LT3746 ideal for large screen LCD dynamic backlighting as well as full color LED displays.

The LT3746EUHH is available in a 56-lead 5mm x 9mm QFN package priced starting at \$4.95 each, in 1,000-piece quantities. The extended temperature version the LT3746IUHH, or I-grade, is also available, priced starting at \$5.45 each in 1,000-piece quantities. All versions are available from stock. For more information, visit www.linear.com/product/LT3746


Photo Caption: 32-Channel 30mA Buck LED Driver

Summary of Features: LT3746

- 6V to 55V Power Input Voltage Range
- 32 Independent LED Outputs up to 30mA/13V
- 6-Bit Dot Correction Current Adjustment
- 12-Bit Gray Scale PWM Dimming
- 0.5µs Minimum LED On-Time
- Adaptive LED Bus Voltage for High Efficiency
- Cascadable 30MHz Serial Data Interface
- Full Diagnostics & Protection: Individual Open/Short LED & Overtemperature Fault
- 56-Lead 5mm x 9mm QFN Package
- 32-Channel 30mA Buck LED Driver

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 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, and µModule[®] subsystems.

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