



60V LED Driver with Internal 4A Switch & PWM Generator

MILPITAS, CA – April 13, 2015 – The [LT3952](#) is a current mode step-up DC/DC converter with an internal 60V, 4A DMOS power switch. It is specifically designed to drive high power LEDs in multiple configurations. It combines input and output current regulation loops with output voltage regulation to operate as a flexible current/voltage source. The LT3952's 3V to 42V input voltage range makes it ideal for a wide variety of applications, including automotive, industrial and architectural lighting.

The LT3952 can drive up to sixteen 350mA white LEDs from a nominal 12V input, delivering in excess of 15 watts. It incorporates a high side current sense, enabling its use in boost mode, buck mode, buck-boost mode or SEPIC topologies. Internal spread spectrum frequency modulation minimizes EMI concerns. The LT3952 delivers efficiencies of over 94% in the boost topology, eliminating the need for external heat sinking, and internal LED short-circuit protection enables added reliability required in most applications. A frequency adjust pin permits the user to program the switching frequency between 200kHz and 3MHz, optimizing efficiency while minimizing external component size and cost. The LT3952 delivers over 90% efficiency while switching at 2MHz in a tiny solution footprint. The LT3952 provides a very compact high power LED driver solution in a thermally enhanced TSSOP-28E package.

The LT3952 has a gate driver for a PMOS LED disconnect switch, delivering dimming ratios of up to 4,000:1 using an external PWM signal. For less demanding dimming requirements, the CTRL pin can be used to offer a 10:1 analog dimming range and an internal

PWM generator can be used for 5:1 dimming. The LT3952's fixed frequency, current-mode architecture offers stable operation over a wide range of supply and output voltages. Output short-circuit protection and open LED protection enhance system reliability. Other features include frequency synchronization, spread spectrum frequency modulation, programmable V_{IN} undervoltage and overvoltage protection, and an input current limit and monitor.

The LT3952EFE is available in a thermally enhanced 28-lead TSSOP package. Three temperature grades are available, with operation from -40°C to 125°C (junction) for the extended, and industrial grades, and a high temperature grade of -40°C to 150°C . Pricing starts at \$3.95 each in 1,000-piece quantities and all versions are available from stock. For more information, visit www.linear.com/product/LT3952

Photo Caption: 60V LED Driver with Internal 4A Switch & Internal Short-Circuit Protection


Summary of Features: LT3952

- 4000:1 True Color PWM™ Dimming
- 4A, 60V Internal DMOS Switch
- Wide Input Voltage Range: 3V to 42V
- 0V to 60V Output Current Regulation with Monitor
- PMOS Switch Driver for PWM & Output Disconnect
- LED Short-Circuit Protection & /SHORTLED Flag
- Internal Spread Spectrum Frequency Modulation
- Constant-Current & Constant-Voltage Regulation
- Input Current Limit & Monitor
- Adjustable Frequency: 200kHz to 3MHz, Synchronizable to an External Clock
- 10:1 Analog Dimming
- Programmable Open-LED Protection with /OPENLED Flag
- Programmable V_{IN} Undervoltage & Overvoltage Lockout
- Available in a 28-Lead TSSOP Package

The USA list pricing shown is for budgetary use only. International prices may differ due to local duties, taxes, fees and exchange rates.

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 over 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, μ Module[®] subsystems, and wireless sensor network products. For more information, visit www.linear.com

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