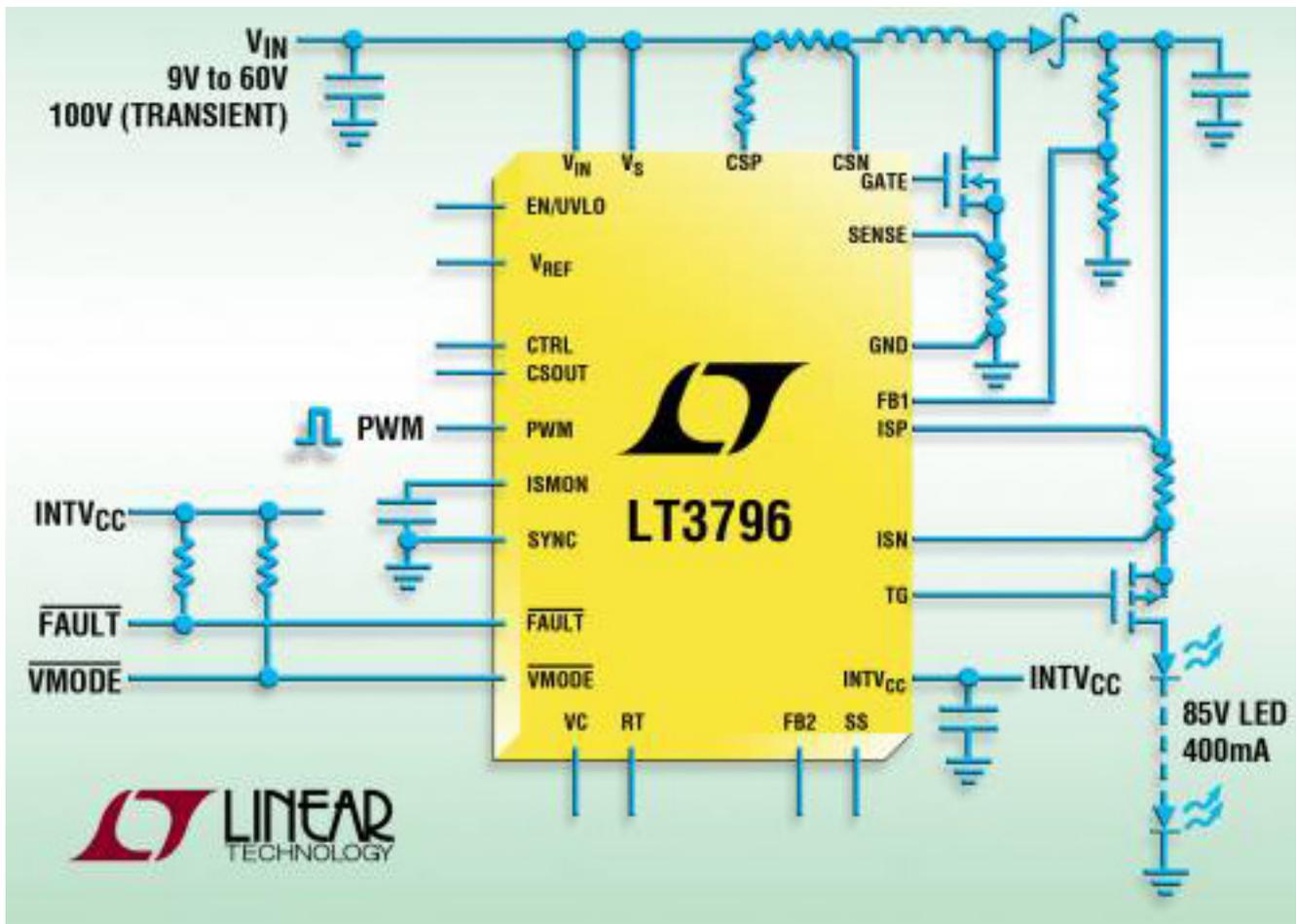


## DC/DC controller ideal for driving high-brightness LEDs

Linear Technology announces the [LT3796](#) [1], a 100V, high-side current sense DC/DC controller designed to regulate a constant-current or constant-voltage that is ideal for driving high brightness (HB) LEDs. Its 6V to 100V input voltage range supports a wide variety of applications, including automotive, industrial and architectural lighting. The LT3796 uses an external N-channel MOSFET and can drive up to 85V of white LEDs from a nominal 12V input, delivering in excess of 50 Watts. The LT3796 is ideal for charging batteries or supercaps at constant current and voltage. The LT3796 incorporates a high-side current sense, enabling its use in boost, buck, buck-boost or SEPIC and flyback topologies. Additionally, it offers both input and output current limiting and monitoring for added reliability and design flexibility. The LT3796 can deliver efficiencies of over 94% in boost mode, minimizing the need for external heat sinking. A frequency adjust pin enables the user to program the frequency between 100kHz and 1MHz, optimizing efficiency while minimizing external component size and cost. Combined with a thermally enhanced TSSOP-28 package, the LT3796 offers a highly compact HB LED driver or charger solution.



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Published on Electronic Component News (<http://www.ecnmag.com>)

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The LT3796 uses True Color PWM dimming, which delivers constant LED color with dimming ranges of up to 3,000:1. For less demanding dimming requirements, the CTRL pin can be used to offer a 10:1 analog dimming range. Its fixed frequency, current-mode architecture ensures stable operation over a wide range of supply and output voltages.

Robust open and short-circuit protection maximize overall system reliability, whereas C/10 detection optimizes both battery and supercap charging designs. Additional features include frequency synchronization, programmable UVLO and a programmable fault restart timer.

The LT3796EFE is available in a thermally enhanced TSSOP-28 package. Pricing starts at \$3.45 each. An extended temperature version, or I-grade, the LT3796IFE, is also available, priced starting at \$3.86 each. Finally, a high temperature, or H-grade option, is available, the LT3796HFE with pricing starting at \$4.11 each. All prices are in 1,000-piece quantities and all versions are available from stock. For more information, visit [www.linear.com/product/LT3796](http://www.linear.com/product/LT3796) [1].

### Source URL (retrieved on 05/19/2013 - 6:49pm):

<http://www.ecnmag.com/products/2012/04/dc/dc-controller-ideal-driving-high-brightness-leds>

### Links:

[1] [http://r20.rs6.net/tn.jsp?e=001CAiXoLP-WzMB1I4IE-ZU0ZjLT-GU5BeZcJP6UKPVkE UH1L-wYoF5QABIsHA720dLwBvZH8UXPVjyMojy9Bgr1EiWbflR4s\\_3hpPR7-hOSmcd4Z vkTAh19DNUJ8c79-CIYM6VOjrbOC0=](http://r20.rs6.net/tn.jsp?e=001CAiXoLP-WzMB1I4IE-ZU0ZjLT-GU5BeZcJP6UKPVkE UH1L-wYoF5QABIsHA720dLwBvZH8UXPVjyMojy9Bgr1EiWbflR4s_3hpPR7-hOSmcd4Z vkTAh19DNUJ8c79-CIYM6VOjrbOC0=)