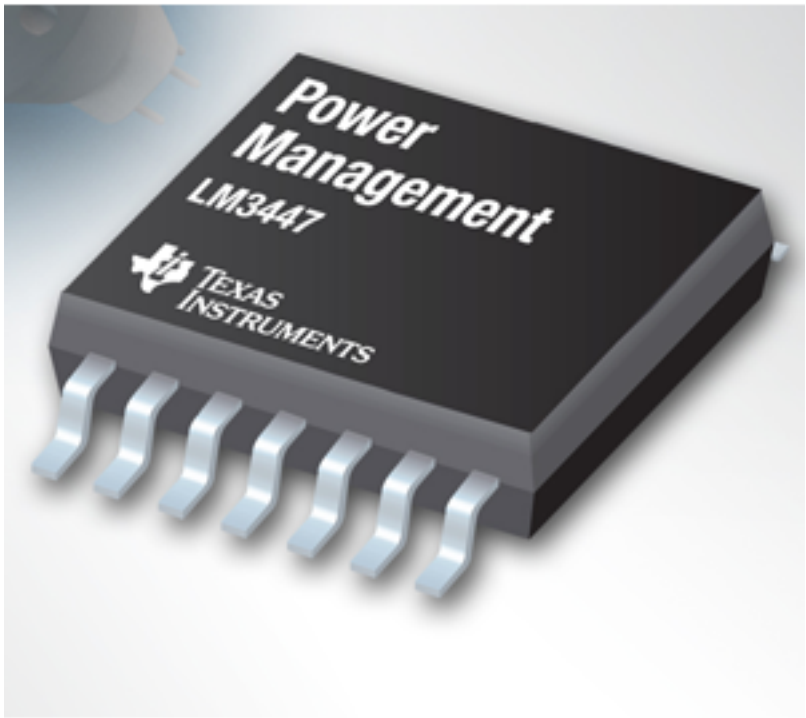
TI introduces industry’s first LED controller with constant power regulation



Texas Instruments today introduced a new LED controller with constant power regulation. The LM3447 AC/DC LED driver includes a dimmer detect, phase decoder and adjustable hold current circuits to provide smooth and flicker-free dimming operation in off-line, isolated LED lighting applications, including A19, E26/27 and PAR30/38 bulbs, as well as can light retrofits. For more information, samples and an evaluation module, visit: www.ti.com/lm3447-pr [1]

Traditional drivers use constant current control to accurately regulate LED forward current. This approach produces consistent light output or intensity from LEDs in the same bin. However, once current is applied to the LED, its solder point temperature rises, leading to a decrease in forward voltage and a drop in efficacy. Conversely, by using the new LM3447 with constant power regulation, the LED forward voltage droop over temperature is offset by an increase in LED current to maintain constant LED power. The result is up to 10-percent improvement in efficacy across the expected operating temperature range of the fixture. Watch a video at www.ti.com/lm3447v-pr [2].

The LM3447 joins TI’s portfolio of off-line LED lighting controllers that include the National LM3445, the industry’s first phase-dimmable LED driver with constant current control, and the TPS92310 primary side regulator for non-dimming applications. For more information on all of TI’s lighting products, visit http://www.ti.com/lighting-pr [3]. The LM3447 will be demonstrated in TI’s booth

#6935 at Lightfair International in Las Vegas, NV, from May 9 to 11.

Key features and benefits of the LM3447 LED driver

• Integrated phase dimmer decoding and dimmer detection circuitry allows for easy design and highest efficiency.
• Operates with leading edge (TRIAC) and trailing edge dimmers.
• Primary side control supports isolated lighting designs without opto-couplers.
• Constant power LED load regulation improves efficacy of LED array by compensating for LED junction temperature changes.
• Fixed frequency discontinuous conduction mode flyback topology with valley switching simplifies EMI filter design.
• Greater than 0.9 power factor correction meets all regulatory requirements.
• Thermal fold-back protects LED array from over-temperature while still providing reduced light output.
• LED open- and short-circuit protection and driver IC thermal shutdown protect lamp electronics from damage during fault conditions.

Availability, packaging and pricing

The LM3447 is available in volume now from TI and its authorized distributors. Offered in a 14-pin TSSOP package, the suggested retail price is $1.15 in 1,000-unit quantities.

Find out more about TI's LED lighting portfolio:

• Order samples and an evaluation module of the new LED driver: http://www.ti.com/lm3447-pr [1].
• Get more information on all of TI's LED drivers: www.ti.com/lighting-pr [3].
• Ask questions and share knowledge in the LED forum in the TI E2E Community: www.ti.com/ledforum-pr [4].
• Download LED reference designs from TI's PowerLab Reference Design Library: www.ti.com/powerlab-pr [5].
• Use TI's AC/DC LED driver online navigation tool to create a complete LED drive solution: http://www.ti.com/ww/en/lighting/bulb/selectortool.shtml [6].

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http://www.ecnmag.com/products/2012/05/ti-introduces-industry%E2%80%99s-first-led-controller-constant-power-regulation

Links:
[1] http://www.ti.com/lm3447-pr
[2] http://www.ti.com/lm3447v-pr
[3] http://www.ti.com/lighting-pr
[4] http://www.ti.com/ledforum-pr
[5] http://www.ti.com/powerlab-pr
[6] http://www.ti.com/ww/en/lighting/bulb/selectortool.shtml