LED driver platform lowers the bill of materials cost by 10% to 20%

iWatt [1] today announced its latest digital AC/DC SSL (solid state lighting) LED driver platform with the iW3616 [2] and iW3617 [3]. This new platform expands iWatt's existing line of Flickerless [4] LED drivers, increasing output power to 25W or higher, lowering the bill of materials (BOM) cost by 10% to 20%, and offering compatibility with an even wider range of installed dimmers, including residential TRIAC dimmers as well as the more sophisticated digital dimmers.

This new SSL LED driver platform is finding early adopter acceptance at several iWatt key customers, including Greatech Industrial Co., LTD., which has already designed the iW3616 into its next-generation LED lighting fixture line.

"Product and light quality are important to us. We chose iWatt's iW3616 as it enabled us to produce the best SSL driver with excellent performance that meets all regulations worldwide with outstanding dimmer compatibility and absolutely no flicker," said Mr. Brian Wu, Technical Director at Shenzhen Greatech Industrial Co., LTD. "Importantly, we were able to do this cost effectively, enabling us to hit the price point for our product that consumers demand."

Regulations around the world mandate driver performance, as well as efficiency. Quality is specified in terms of total harmonic distortion (THD) and power factor and the iW3616 and iW3617 easily exceed all requirements, achieving power factor greater than 0.95 and low total harmonic distortion (THD) of less than 15%. Both

devices are designed to meet, or exceed the 85% efficiency required for most new LED driver designs.

Designed for 120V/230VAC offline LED lighting bulbs and fixtures, the iW3616 and iW3617 offer output power ratings up to 12W and 25W, respectively. They combine iWatt's unique PrimAccurate™ [5] technology to reduce BOM cost and size, with Flickerless technology to eliminate flicker, along with iWatt's patented digital dimming algorithms.

The iW3616 and iW3617 build on iWatt's popular 15W iW3614 LED driver by expanding dimmer compatibility, and improving dimming and EMI performance. They enable a 10% to 20% savings in BOM cost and a smaller overall solution size compared to the iW3614. This is achieved by replacing FETs with lower cost BJTs, by reducing the component count needed for the protection circuit and EMI filtering, and by using a smaller, lower-cost E-capacitor.

The iW3616 and iW3617 operate with dimming frequencies from 630Hz to 900Hz and allow smooth, flicker-free dimming from 1% to 100% with tight +/-5% LED current regulation. Comprehensive safety features include: LED open/short circuit protection, input over-voltage protection, over-temperature thermal shutdown, and AC line over-voltage/frequency protection. An LED current de-rating at high temperatures also protects LEDs.

iW3616, iW3617 Key Features

- Output power: 12W (iW3616); 25W (iW3617)
- Patented digital dimming algorithms ensure wider compatibility with installed wall dimmers
- Flickerless technology eliminates LED flicker all the way down to the minimum light level
- PrimAccurate primary-side control reduces solution size, lowers BOM cost, increases reliability
- Power Factor > 0.95
- Total harmonic distortion (THD) < 15%
- Efficiency > 85%
- Meet global standards, including European Union IEC61000-3-2(1) requirement
- Complies with NEMA SSL 6(2) dimming standard for incandescent replacement screw-base lighting retrofit
- Compatible with Zhaga(3) hot-plug LED module for LED light interchangeability

Packaging, Pricing, Availability

The iW3616 and iW3617 are available now in production quantities. They come in a standard, 14-lead SOIC package. Samples are available at $0.77 for the iW3616 and $0.91 for the iW3617, both in 1000-piece quantities. Product briefs are available: iW3616 Product Brief [6]; iW3617 Product Brief [7].

For more information, visit http://www.iwatt.com [8]

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Links:
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[2] http://www.iwatt.com/iw3616.php
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