



Smart-Lighting LED Drivers from Diodes Incorporated Ensure Flicker-Free Dimming of Tunable White and Color LED Bulbs

Plano, Texas – September 8, 2015 – Diodes Incorporated (Nasdaq: DIOD), a leading global manufacturer and supplier of high-quality application specific standard products within the broad discrete, logic and analog semiconductor markets, today introduced the AL1791/2/3/4 LED drivers. These single-, dual-, triple-, and quad-channel DC-to-constant current (DC-CC) LED driver ICs provide both analog and PWM dimming control and are targeted for smart, connected-lighting applications that use tunable white and color LED bulbs. When combined with an AC-DC power conversion block and a microcontroller, these current-ratio-optimized regulators provide a cost-effective, scalable and easy-to-implement solution for the emerging smart lighting market.

Operating from a 6.5V to 30V input voltage range, the AL1791/2/3/4 constant-current regulators can drive up to four independent LED channels with a maximum of 500mA per channel or 1.5A total drive current for the AL1792/3/4, or 1A maximum for the AL1791. Each channel can be individually controlled down to 0.125% with 500Hz to 10kHz flicker-free PWM dimming or with analog dimming down to 1.25%. Using the same pin for both inputs ensures the appropriate analog or PWM dimming response.

Support for deep dimming (to below 1%) is important because the human eye perceives light strength as the square root of the measured light, which is proportional to the dimming current. Similarly, while the human eye only notices flicker below 120Hz, the ability to operate PWM dimming above 1kHz avoids problems with e-Flicker, which is the flicker picked up by cameras such as those found in smart phones that can result in dark bands on still images. The AL179X

is capable of high frequency PWM for deep dimming applications: 10KHz at 1.0%, 4KHz at 0.4% and 1KHz at 0.1%.

The AL179x LED drivers all feature an enable pin or low standby power, internal protection for LED string open/short-circuit and under voltage lockout, over-temperature protection with thermal shutdown and auto-recovery, and full fault reporting as well as LED power-good reporting. An integrated low-side current sink topology allows for either lower cost common-anode LED connections or different anode voltages for improved energy-efficiency. All devices operate over an ambient temperature range of -40°C to +125°C and are packaged in the same 14-pin UDFN-4030 package, which allows for easy scalability of LED driver design in smart, connected-lighting applications. Further information is available at www.diodes.com.

About Diodes Incorporated

Diodes Incorporated (Nasdaq: DIOD), a Standard and Poor's SmallCap 600 and Russell 3000 Index company, is a leading global manufacturer and supplier of high-quality application specific standard products within the broad discrete, logic and analog semiconductor markets. Diodes serves the consumer electronics, computing, communications, industrial, and automotive markets. Diodes' products include diodes, rectifiers, transistors, MOSFETs, protection devices, functional specific arrays, single gate logic, amplifiers and comparators, Hall-effect and temperature sensors; power management devices, including LED drivers, AC-DC converters and controllers, DC-DC switching and linear voltage regulators, and voltage references along with special function devices, such as USB power switches, load switches, voltage supervisors, and motor controllers. Diodes' corporate headquarters and Americas' sales office are located in Plano, Texas. Design, marketing, and engineering centers are located in Plano; San Jose, California; Taipei, Taiwan; Manchester, England; and Neuhaus, Germany. Diodes' wafer fabrication facilities are located in Kansas City, Missouri and Manchester, with two additional facilities located in Shanghai, China. Diodes has assembly and test facilities located in Shanghai and in Chengdu, China, as well as in Neuhaus and in Taipei. Additional engineering, sales, warehouse, and logistics offices are located in Taipei; Hong Kong; Manchester; Shanghai; Shenzhen, China; Seongnam-si, South Korea; and Munich, Germany, with support offices throughout the world. For further information, including SEC filings, visit Diodes' website at www.diodes.com.

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