



*For immediate release*

## **Offline Constant Voltage and PFC Controller from Diodes Incorporated Offers Low Standby Power for Connected LED Lighting**

**Plano, Texas – December 05, 2017** – Diodes Incorporated (Nasdaq: DIOD), a leading global manufacturer and supplier of high-quality application specific standard products within the broad discrete, logic, analog and mixed-signal semiconductor markets, today introduced the AL1788. This high-performance offline constant voltage and PFC controller has been developed to combine high power factor correction (PFC) with low total harmonic distortion (THD) and low standby power, making it well-suited for commercial applications and connected lighting requirements.

Based on a platform that supports both flyback and buck topology, the AL1788 is designed for primary side regulation (PSR), which removes the need for feedback optically coupled from the secondary side. This delivers outstanding performance, such as high efficiency of up to 91%, good line and load regulation of 2% over a full range of line and load regulation, and low standby power of less than 0.2 Watts.

With a PFC of  $>0.9$  and lower standby power than its competitors, the AL1788 operates with an external MOSFET to deliver constant voltage to an LED load. The high power factor is achieved through constant on time operation, while its quasi-resonant mode valley switching method minimizes switching losses and provides outstanding EMI performance.

By exploiting PSR, the complexity of the secondary side is reduced, enabling a smaller overall profile suitable for solid state lighting installations. The output voltage is regulated when operating in constant-voltage mode through feedback provided by an auxiliary winding, coupled to the secondary side winding.

The AL1788 maintains its note-worthy PFC and THD performance across a wide input range over a load from 50% to 100%. The AL1788 features low start-up and

operating current of just 3 $\mu$ A and 500 $\mu$ A, respectively (typical), combined with 'Burst Mode' operation. The AL1788 enables users' designs to meet low standby power system requirements.

Comprehensive protections are integrated, including output-open protection and output-short protection, as well as overcurrent, overvoltage and over-temperature protection. Undervoltage lockout is also integrated.

The controller-only version of AL1788 is available now and provided in the SOT26 (SC74R) package, while the MOSFET regulator options will be supplied in an SO-7 package and will be released in 2018. Both are lead, halogen, and antimony free and fully RoHS compliant. Further information is available at [www.diodes.com](http://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, analog and mixed-signal semiconductor markets. Diodes serves the consumer electronics, computing, communications, industrial, and automotive markets. Diodes' products include diodes, rectifiers, transistors, MOSFETs, protection devices, function-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 and Milpitas, California. Design, marketing, and engineering centers are located in Plano; Milpitas; Taipei, Taiwan; Taoyuan City, Taiwan; Zhubei City, Taiwan; Manchester, England; and Neuhaus, Germany. Diodes' wafer fabrication facilities are located in Kansas City, Missouri and Manchester, with an additional facility located in Shanghai, China. Diodes has assembly and test facilities located in Shanghai, Jinan, Chengdu, and Yangzhou, China, as well as in Hong Kong, Neuhaus and 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.

Recent news releases, annual reports and SEC filings are available at the Company's website: <http://www.diodes.com>. Written requests may be sent directly to the Company, or they may be e-mailed to: [diodes-fin@diodes.com](mailto:diodes-fin@diodes.com).

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