



## **PWM Controllers from Diodes Incorporated Improve Efficiency**

**Plano, Texas – December 17, 2014** – 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 a family of PWM controllers designed to improve operating efficiency and eliminate no-load losses. The AP3125 current-mode devices have been optimized for use in offline AC-DC converters in portable products, consumer electronics and domestic appliances.

The improvement in performance is a result of the devices' three operating modes. In normal mode, switching frequency is either 65kHz or 100kHz. For a mid-range load, however, the controllers enter green mode, where frequency fold-back is used to back-off the frequency and raise average efficiency. Finally, in conditions of no-load or a very light load, the devices enter a burst mode to minimize standby power.

To help minimize audible noise in the system, the SOT26-packaged AP3125 controllers have a minimum switching frequency setting of 20kHz, while a built-in frequency dithering function in normal and green modes ensures a reduction in EMI emissions.

The controllers' improved internal slope compensation helps to simplify feedback loop design and enables more stable peak current control over a wide range of input voltage and load conditions. In addition, the AP3125 family's internal line compensation ensures output power limit is constant over the entire line voltage range.

To help increase system reliability, the controllers also integrate a more complete range of protection functions than competing devices. Internal over-temperature protection and fast over-current protection are included, along with over-voltage and overload protection. The AP3125B and AP3125HB variants also integrate brownout and line over-voltage protection, easily configured using a few divider resistors. 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 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, logistics center, 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 more located in Shanghai, China. In addition, two assembly-test facilities are located in Shanghai; two are located in Chengdu, China, with one in Neuhaus and one in Taipei. Additional engineering, sales, warehouse, and logistics offices are located in Fort Worth, Texas; Taipei; Hong Kong; Manchester; Shanghai; Shenzhen, China; Seongnam-si, South Korea; Suwon, South Korea; Tokyo, Japan; and Munich, Germany, with support offices throughout the world. For further information, including SEC filings, visit Diodes' website at <http://www.diodes.com>.

###

**Company Contact:**

Diodes Incorporated  
Julie Holland  
VP, Worldwide Analog Products  
P: 972-987-3900  
E: [pressinquiries@diodes.com](mailto:pressinquiries@diodes.com)

**Investor Relations Contact:**

Shelton Group  
Leanne K. Sievers  
EVP, Investor Relations  
P: 949-224-3874  
E: [lsievers@sheltongroup.com](mailto:lsievers@sheltongroup.com)