



Quasi-Resonant PWM Controller from Diodes Incorporated Optimizes Efficiency in Power Adapter Applications

Plano, Texas – October 11, 2016 – 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 AP3301. This quasi-resonant (QR) PWM controller enables the implementation of high-performance, cost-effective power supplies that are capable of meeting DOE6/COC Tier 2 efficiency requirements at all load levels. Targeting the key market of AC-DC adapters for set-top box and gaming console applications, this controller also meets the auxiliary power requirements of ATX/BTX computer motherboards and is suited for use in open-frame switching power supplies.

Multiple operating modes allow the AP3301 to achieve optimal efficiency at different load levels: Under low- or no-load conditions, the IC uses a burst mode to minimize standby power consumption while operating at a minimum switching frequency of approximately 20kHz to avoid audible noise. At intermediate loads, a valley-lock QR mode with frequency foldback improves efficiency and EMI performance. For heavy loads, or under low-line input conditions, the controller enters a continuous conduction mode (CCM) at a fixed 62kHz switching frequency for optimum conversion efficiency. A built-in frequency dithering function helps reduce EMI emission in both CCM and QR modes.

The AP3301 provides comprehensive protection features for enhanced system reliability. These include: AC-input brown-out protection, cycle-by-cycle current limit, precise output over-voltage protection, internal over-temperature protection, overload protection, and a pin fault-protection circuit, which detects floating or short connections on key signal pins and disables PWM switching to protect the power system.

With just minor changes to external components, the SOT-26 packaged AP3301 provides a pin-compatible replacement solution for Diodes' existing AP3105/AP3125

PWM controllers. For further information, visit the Company's website 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, 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.

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