



Dual-Phase Buck Controller from Diodes Incorporated Manages the Demands of Graphics Cards

Plano, Texas – June 26, 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 dual-phase synchronous rectified buck controller, optimized for use in high-performance GPU and CPU core power supplies. Providing PWM video-identification dynamic-output voltage control, the AP3598A assures the fast, high-current response demanded by the inherently large variations in output loading.

The device includes a PWM controller, a pair of MOSFET drivers with internal bootstrap diodes, channel-current balance and comprehensive protection features integrated into the compact, low pin-count U-QFN4040-24 package. Designed for 12V systems, it delivers an output current as high as 60A and harnesses external compensation to minimize output voltage ripple and optimize transient response.

Accurate phase current balance is maintained through lossless $R_{DS(ON)}$ current sensing, while inductor current sampling ensures a dependable current limit. To help maximize efficiency, the AP3598A offers a power-save mode, which enables it to switch automatically between dual- and single-phase operation when subject to light loading.

For safe high-current operation, the controller provides a full complement of protection functions including over-current, over-temperature, and under- and over-voltage protection. Other features include adjustable soft-start, adjustable operating frequency selection, and a power-good indicator and enable control. 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 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 an assembly and test facility located in Shanghai, in Chengdu, China, as well as in Neuhaus and 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>.

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