



Product news

MOSFET Driver for Synchronous Rectification from Diodes Incorporated Supports CCM, DCM, and QR Operation

Plano, Texas – February 6, 2020 Diodes Incorporated (Nasdaq: DIOD) today announced the introduction of the [APR348](#) secondary-side, multi-mode synchronous rectification MOSFET driver, designed for AC-DC rectification circuits in general consumer applications, notebooks, and USB adapters.

The APR348 is capable of driving the external MOSFET in both high-side and low-side secondary-side synchronous-rectifier configurations. This flexible and efficient device supports secondary-side output voltages up to 20V in continuous conduction mode (CCM), discontinuous conduction mode (DCM), and quasi-resonant (QR) flyback modes. These options give development teams total freedom over how they implement synchronous rectification.

Manufacturers often choose an external MOSFET when implementing synchronous rectification as it provides greater efficiency converters. As the APR348 requires very few additional external components, engineers can still realize extremely small and efficient power supply designs that meet the demands of the consumer sector.

A key design feature of the APR348 is fast turn-on and turn-off times, which reduces power loss and ensures safe operation when in CCM mode. The device also features a blanking period to set the minimum turn-on period for the MOSFET; this significantly improves performance by limiting the impact of voltage ringing.

The APR348 also features a light load (LL) mode, which uses an internal timer to skip cycles when there is no load or only a light load detected at the output. This design delivers lower standby power at no load. In addition, high-side switching does not require an additional transformer winding, further minimizing the bill of materials cost.

The APR348 is available in the SOT26 Type CJ package.

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, 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 also has timing, connectivity, switching, and signal integrity solutions for high-speed signals. 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, UK; and Neuhaus, Germany. Diodes' wafer fabrication facilities are located in Manchester and Greenock, UK, and 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; Munich, Germany; and Tokyo, Japan, 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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