



Product news

High-Side Load Switch from Diodes Incorporated with Slew-Rate Control and True Reverse Current Blocking Improves Reliability

Plano, Texas – October 24, 2019 Diodes Incorporated (Nasdaq: DIOD) today announced the introduction of the AP22913, a 2.0A single-channel, slew-rate-controlled load switch with true reverse current blocking (TRCB) for high-side load-switching applications.

Single-channel high-side load switches provide an effective way of applying or removing power to a load, particularly to removable peripherals powered through a USB port. The large output capacitors (100 μ F) associated with the USB port and self-powered USB peripherals create the possibility that the load switch may become reverse-biased, which creates the potential of reverse current flowing from the load to the source, potentially causing damage to other components or active cables. The AP22913A load switch incorporates TRCB, which removes the normal body diode unwanted current paths to provide a cost-effective and space-efficient solution to load switching.

With a load current of up to 2.0A across a wide operating voltage range, the AP22913 is designed to deliver a typical $R_{DS(ON)}$ of 92m Ω at 1.5V and 54m Ω at 5.0V, allowing maximum load current handling capacity with a low forward voltage drop. The turn-on slew rate of the device is controlled internally to provide a soft-start feature for sensitive loads while the device also features an active-high enable input to enable load switching. To ensure TRCB when disabled and in its off state, the V_{IN} and V_{OUT} terminals are completely isolated internally.

The AP22913 load switch is designed to operate from 1.4V to 5.5V and consumes a quiescent current of just 1 μ A, making it well-suited for 1.8V, 2.5V, 3.3V, and 5.0V systems. With a maximum load current of 2.0A, the AP22913 is suitable for a wide range of applications, such as smart phones, portable, wearable and medical devices, and navigation devices as well as notebooks and ultra-mobile PCs.

The AP22913 is available in two options: the AP22913CN4-7 in the X-WLB0909-4 package and the AP22913W6-7 in the SOT26 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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