



High-Side Power Switches for USB Ports from Diodes Incorporated Cover Power Delivery and Fast Role Swap

Plano, TX – October 2, 2018 – 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 AP22815 and AP22615 3A single-channel high-side power switches for USB ports and other hot-swap applications. These devices are designed to provide protection for any sensitive electronic equipment that is used in a hot-swap situation, such as USB peripherals, portable electronics, or external storage devices.

The highly integrated high-side switches provide extensive port protection with auto-recovery, including over-voltage, over-current, short-circuit, and over-temperature. In addition, they feature controlled rise-time and under-voltage lock-out, as well as a discharge function for external storage capacitors.

Based on an N-channel MOSFET and Diodes Incorporated's patented copper-pillar packaging technology to achieve an exceptionally low on-resistance, the power switches feature a wide input voltage range of 3.0V to 5.0V and an adjustable limited load current of up to 4.0A (AP22615 only). With a low $R_{DS(ON)}$ of just 40m Ω and high ESD protection (2kV human body model, 200V machine model), the AP22815/615 are integrated load switches that are well-suited for a range of applications, including notebooks, netbooks, tablets, set-top boxes, USB chargers, and other consumer electronics.

As well as having integrated load-current limiting, which is adjustable in the AP22615, the high-side power switches are fully compliant with the USB power delivery and fast-role swap specifications. This ensures that the internal power transistor will detect and react to the presence or absence of a power rail within 150 μ s, thereby

supporting the hot-swapping of USB power sinks and sources without resulting in any disruption to the consumer experience.

Both devices feature an enable-pin (which can be specified to be active-high or active-low) and a dedicated flag output that signals a fault condition. To accommodate devices with high load capacitance, a 7ms deglitch period is built in to the devices, to avoid false triggers. 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, England; and Neuhaus, Germany. Diodes' wafer fabrication facility is located in 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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