



*For immediate release*

## **Protection Device from Diodes Incorporated Brings Added Safety to One-Cell, Lithium-Rechargeable Battery Packs**

**Plano, Texas – January 26, 2016** – 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 battery-protection device specifically designed for the safe operation of one-cell lithium-ion (Li+) battery packs. The AP9211 combines a protection chip with a dual N-channel MOSFET to provide a rich set of features that include overcharge, over-discharge and load short-circuit detection. Single-cell battery packs for smart phones and power banks are the primary end-market and this protection circuit is aimed at the manufacturers of protection circuit modules who supply the battery pack makers.

The AP9211 co-packages a battery protection chip and a standard dual N-channel common-drain MOSFET in a small 3mm x 2mm 6-pin package. The low profile (<0.6mm) of the U-DFN2030-6 package helps achieve a slimmer protection circuit board design, which in turn allows for larger battery capacities for a given battery size. By continually monitoring voltage and current, the chip can rapidly turn off the MOSFET to prevent overcharging or excessive discharge conditions, including load short circuit.

Further benefits of the AP9211 are the use of a high voltage (up to 30V) CMOS process that can endure surge voltages. The process also enables high accuracy voltage detection with stable temperature coefficient performance. The device achieves power savings from its low quiescent operating current, typically 3.0µA in normal mode and 0.1µA maximum in power-down mode. Another feature is

the built-in fixed delay time that reduces the need for external components. Further information is available at [www.diodes.com](http://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 assembly and test facilities located in Shanghai and in Chengdu, China, as well as in Neuhaus and in 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. For further information, including SEC filings, visit Diodes' website at [www.diodes.com](http://www.diodes.com).

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