



*For immediate release*

## **Single-Stage, High Power Factor LED Driver-Controller from Diodes Incorporated with Mixed-Mode Dimming**

**Plano, TX – May 21, 2019** – Diodes Incorporated (Nasdaq: DIOD) today announced the introduction of the AL1665 single-stage, fly-back and buck-boost controller for commercial, connected, and dimmable LED lighting installations operating at up to 100W.

The AL1665 is designed to drive an external MOSFET to control LED loads and maintain a high power factor. It provides a compact and efficient solution that helps minimize the use of additional components and maintains high switching efficiency.

Designed to operate from an AC input voltage of between 85VAC and 305VAC, the AL1665 utilizes primary side regulation (PSR) topologies, removing the need for optical isolation or secondary side control. With PSR, developers can design smaller solutions using less PCB area and achieve lower bill of material costs, while delivering constant current regulation to high-power LED lighting applications.

The ability to apply dimming across 0.5% to 100% of the high-power output makes the AL1665 suitable for commercial LED applications where the lighting output levels need to be adjustable to save power, or for aesthetic purposes like in retail displays. Compatible with ANSI-approved dimmers, the output voltage can be adjusted between 0V and 10V using a dedicated PWM input, or with an analog input voltage of between 0V and 2.5V, making it simple to develop connected lighting systems that can be managed both locally and remotely.

The device employs boundary condition mode (BCM) conversion with valley switching to minimize losses and deliver high efficiency with low EMI. The wide supply voltage allows the AL1665 to operate in any geographical region directly from the main supply, while its line and load regulation of less than  $\pm 2\%$ , power factor of more than 0.9, and THD of less than 20% enables manufacturers to comply with all relevant legislation.

The AL1665 is available in the SO-8 package. 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, 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 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; 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](mailto:diodes-fin@diodes.com).

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**Company Contact:**

Diodes Incorporated  
Emily Yang  
VP, Worldwide Sales and Marketing  
P: 972-987-3900  
E: [pressinquiries@diodes.com](mailto:pressinquiries@diodes.com)

**Investor Relations Contact:**

Shelton Group  
Leanne K. Sievers  
EVP, Investor Relations  
P: 949-224-3874  
E: [lsievers@sheltongroup.com](mailto:lsievers@sheltongroup.com)