



Dual Digital Interface, Multi-Channel LED Driver from Diodes Incorporated Addresses RGB and Single-Color Solid-State Lighting

Plano, Texas – January 31, 2023 – Diodes Incorporated (Diodes) (Nasdaq: DIOD) announces its latest linear current LED driver, the DIODES™ [AL5887](#). This product offers a simple way of driving numerous LEDs to enable complex color mixing and different lighting patterns. It integrates both I2C and SPI interface options, providing maximum system design flexibility. Delivering a wide color range and an extensive dynamic range of brightness levels, this device can be used in smart home appliances, electric vehicle charging stations, infotainment displays, IoT information indicators, and computing hardware.

The AL5887 has a total of 36 independent programmable channels and can drive up to 12 RGB LED modules or 36 single-color emitters. It features an internal 12-bit pulse-width modulation (PWM) for color and 6-bit analog brightness control, which can be accessed through either SPI or I2C interfacing.

There are three programmable banks for software control of each color, making it easier to program and set RGB lighting module patterns. Having an independent color-mixing and brightness register per channel enables better color-mixing schemes. The dimming function relies on a PWM duty cycle from 3% to 100%. Once the duty cycle goes below 3%, internal circuitry converts the output to analog dimming, maintaining linearity. By combining PWM and analog dimming functions, a dimming ratio greater than 100K to 1 can be achieved.

The AL5887 incorporates advanced diagnostics with fault-reporting functions. Its comprehensive set of built-in protection capabilities ensures reliable operation and continued safety—including both short-circuit and open-LED protection, as well as overtemperature shutdown. The pre-event overtemperature shutdown warning also results in earlier system protection.

Using the two external hardware address pins, up to four of these devices can be connected together in I2C mode. Inclusion of an internal 16MHz oscillator avoids the need for an external high-precision clock, reducing the overall bill-of-materials (BOM) cost.

The [AL5887](#) LED driver from Diodes is supplied in a 52-pin wettable QFN package, with exposed pad for better heat dissipation, and is available at \$1.70 in 1,000 piece quantities.

About Diodes Incorporated

Diodes Incorporated (Nasdaq: DIOD), a Standard and Poor's SmallCap 600 and Russell 3000 Index company, delivers high-quality semiconductor products to the world's leading companies in the consumer electronics, computing, communications, industrial, and automotive markets. We leverage our expanded product portfolio of discrete, analog, and mixed-signal products and leading-edge packaging technology to meet customers' needs. Our broad range of application-specific solutions and solutions-focused sales, coupled with worldwide operations of 32 sites, including engineering, testing, manufacturing, and customer service, enables us to be a premier provider for high-volume, high-growth markets. For more information visit www.diodes.com.

The Diodes logo is a registered trademark of Diodes Incorporated in the United States and other countries.

DIODES is a trademark of Diodes Incorporated in the United States and other countries.

All other trademarks are the property of their respective owners.

Company Contact:

Diodes Incorporated
Emily Yang
SVP, Worldwide Sales and Marketing
P: 972-987-3900
[Contact Us](#)

Investor Relations Contact:

Shelton Group
Leanne K. Sievers
President
P: 949-224-3874
E: lsievers@sheltongroup.com