



## **All-in-One Fan Driver from Diodes Incorporated Simplifies Circuit Design**

**Plano, Texas – October 2, 2014** – 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 pair of all-in-one single-phase 12V fan motor drivers for low to medium voltage brushless DC fan control in consumer, home appliance, industrial and office equipment. The high level of integration, miniature package options and thermal handling offered by the AH5772 and AH5773 fan drivers enable a reduction in component count and PCB area where space is at a premium.

By integrating both high-sensitivity Hall sensors and companion input amplifiers, the devices can be used with lower strength fan motor magnets, achieving additional cost savings. With excellent voltage and thermal coefficients over a very wide operating range, the sensors' tolerances are also very small, helping to reduce variability in motor performance and simplifying manufacturing and testing.

A built-in low  $R_{DS(on)}$  H-bridge output stage enables these compact fan drivers to support source and sink currents of up to 500mA continuous, 1A peak, matching the performance of much larger and more complex drivers and pre-drivers. The devices' low profile, low pin-count package options are MSOP8-EP and U-DFN2020-6 (planned Q4 2014) for the AH5773 and TO-94 for the AH5772.

The fan drivers' wide operating voltage range (2.4V to 18V) suits a variety of brushless DC cooling fan applications, with the low start-up voltage permitting fan operation down to 20% of nominal 12V supply. An operating temperature

range of  $-40^{\circ}\text{C}$  to  $+105^{\circ}\text{C}$  makes them suitable for even the most thermally demanding enclosures.

While both drivers provide fan speed regulation via voltage input control, the AH5773 also offers more accurate speed control by varying the duty ratio of a PWM signal train applied to a dedicated PWM input. When the AH5773's PWM pin is pulled low for longer than 65ms, the device enters standby mode, consuming only 100 $\mu\text{A}$  (typical). When the PWM pin is pulled high, the drive output is reactivated. This quick start function can be used during locked rotor protection phase to restart fan motor before full lock-off time has elapsed.

To help protect the fan motor coil from over-heating or burning out, both fan drivers incorporate locked rotor protection, which shuts down the driver output in the event of locked rotor detection. Once the rotor lock is released, the drive automatically restarts. Lock-detect, shutdown and auto-restart timing are all handled internally and do not require external timing capacitors.

Further safeguard features integrated into the drivers include over-voltage protection, which shuts the devices down upon detecting an over-voltage situation; this puts the AH5772 and AH5773 in standby mode to prevent motor coil stress. An over-temperature shutdown function provides thermal protection for the devices as well. 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, logistics center, 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 more located in Shanghai, China. In addition, two assembly-test facilities are located in Shanghai; two are located in Chengdu, China, with one in Neuhaus and one in Taipei. Additional engineering, sales, warehouse, and logistics offices are located in Fort Worth, Texas; Taipei; Hong Kong; Manchester; Shanghai; Shenzhen, China; Seongnam-si, South Korea; Suwon, South Korea; Tokyo, Japan; and Munich, Germany, with support offices throughout the world. For further information, including SEC filings, visit Diodes' website at <http://www.diodes.com>.

###

**Company Contact:**

Diodes Incorporated  
Julie Holland  
VP, Worldwide Analog Products  
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)