



## **Hall Sensors from Diodes Incorporated Minimize Power Consumption and Improve Accuracy**

**Plano, Texas – March 03, 2015** – 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 family of micro-power 8-bit resolution Hall effect sensors for contactless switching in portable consumer electronic products, domestic appliances and industrial equipment.

Operating over a supply range of 1.6V to 3.6V and a magnetic range of  $\pm 400\text{G}$ , the sensors allow the operating mode and sampling rate to minimize current consumption down to micro-power levels. The AH8500 and the higher accuracy AH8501, which both feature an enable pin, draw a current of just  $9\mu\text{A}$  in sleep mode (default mode). The devices achieve a typical current consumption of only  $12\mu\text{A}$  at 20Hz and  $1.16\text{mA}$  at the maximum 7.14kHz sample rate.

Also included in the product family are the AH8502 and AH8503, which feature a control pin, and a default-mode sampling rate of 24Hz. These two devices consume  $13\mu\text{A}$  and allow the control pin to increase the sampling rate up to 7.14kHz, with a current consumption of  $1.16\text{mA}$ .

The higher accuracy, gain trimmed AH8501 and AH8503 devices help minimize any sample-to-sample variation and the need for any sensor calibration. The AH8501 and AH8503 have a sensitivity accuracy of 3% at room temperature and a null offset below 1% of supply voltage.

This family of linear Hall effect sensors feature internal ADC and DAC and have a typical span linearity greater than 99.7% ensuring high linearity with the

external magnetic field. A low input-referred noise characteristic of less than 0.36G helps minimize output fluctuation.

The devices' high sensitivity over its full operating range, typically 2.25mV/G at 1.6V to 4.12mV/G at 3.6V, enables designers to either boost field detection ranges or make use of weaker, lower cost magnets.

With their chopper-stabilized architecture and advanced low temperature coefficient, these sensors help to minimize output offsets, drift and internal stress effects, ensuring greater stability and robustness over the full -40°C to +85°C operating temperature range. These devices also feature a high ESD of 6kV.

Packaged in the small footprint, low profile U-DFN2020-6, this family of devices is suitable for a variety of proximity, position, and travel and level detection applications. 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 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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