



Tiny, Micropower Hall-Effect Switches from Diodes Incorporated Deliver Compatibility with Low-Voltage Chipsets

Plano, Texas – March 21, 2024 – Diodes Incorporated (Diodes) (Nasdaq: DIOD) introduces three new Hall-effect switches, the [AH1899A/B/S](#), which operate from a low supply voltage and at extremely low quiescent current to extend battery lifetime in mobile and portable devices. The AH1899A/B/S are used to detect the open/closed status of covers and cases for portable electronic devices, such as smartphones and tablets. They are also designed for proximity detection in digital cameras and handheld gaming consoles, as well as general contactless switching.

These switches, with their supply-voltage range of 1.1V to 2.0V, seamlessly integrate with state-of-the-art application chipsets operating at 1.2V, ensuring ease of use. The power-efficient architecture of these parts lowers the typical average operating current to as little as 0.95 μ A at 1.2V. The hibernating clocking system in these switches help maximize system energy savings to extend the runtime of battery-operated devices.

The omnipolar AH1899A/B/S operate with either north or south magnetic poles close to the package surface. Leveraging an advanced chopper-stabilized topology, the operating (B_{OP}) and release (B_{RP}) points display minimal drift with supply voltage and temperature. Two sensitivity grades are available, giving designers flexibility to tailor the switch response for their application. The AH1899B and AH1899S operate when the magnetic field strength (B) exceeds 30 Gauss and release at below 20 Gauss. The AH1899A is a high-sensitivity version that operates at 18 Gauss and releases at 12 Gauss. All versions remain off when no field strength is present.

Designers can also take advantage of board-space savings by selecting these switches, which are packaged as X2-DFN1010-4 (Type B) surface-mount devices. At just 1.0mm x 1.0mm, and 0.4mm high, the footprint is smaller than typical alternatives. In addition, the internal circuitry integrates pull-up and pull-down resistors to save the PCB area usually needed for external components.

The [AH1899A](#), [AH1899B](#), and [AH1899S](#) are in production and available from \$0.11 in 5,000 piece quantities. These, and the full portfolio of Hall-effect sensors are included in the Hall-effect sensor part [selector](#).

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 automotive, industrial, computing, consumer electronics, and communications 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.

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