



## **Micropower, Push-Pull, Unipolar Hall Switches from Diodes Incorporated Save Board Space in Battery-Powered Applications**

**Plano, Texas – August 29, 2023** – Diodes Incorporated (Diodes) (Nasdaq: DIOD) today introduced two new portfolios of monolithic, unipolar Hall-effect switches designed for proximity sensing in battery-powered applications. With an ultra-low 1.1 $\mu$ A supply current at 1.85V, and 1.6 $\mu$ A at 1.6V to 5.5V, these devices are ideal for battery-powered portable equipment like smartphones, laptops, and wearables. The devices are also suitable for domestic appliances, game consoles, and industrial hardware use.

The 1.6V to 5.5V operating voltage of these Hall-effect switches allows them to be powered directly from a portable device's battery, eliminating the area and cost of power conversion. Output 1 in the dual-output AH139x series responds to a North pole, while Output 2 responds to a South pole with typical operating points of 25G ([AH1391](#)) and 30G ([AH1392](#)). The single output on the AH138x series responds to a South pole on the part-marking side with typical operating points of 18G ([AH1381](#)), 30G ([AH1382](#)), and 45G ([AH1383](#)).

The tight operating window of these switches ensures a lower magnetic spread, while their chopper-stabilized design provides minimal switch point drift and superior temperature stability. For robustness, these devices have strong human body model (HBM) electrostatic discharge (ESD) protection: 8kV for the AH138x and 6kV for the AH139x series. In addition, these devices have push-pull outputs that do not require an external pull-up resistor, simplifying system design, saving board space, and lowering the bill of materials.

To ensure their suitability in small form-factor applications, all devices are provided in the industry's smallest packages: DFN1010-4 and DFN1410-4. The AH1381, AH1382, and AH1383 versions are additionally available in SOT23 packaging. In 1,000 piece quantities, the [AH138x](#) series is available in DFN packages at \$0.17 and in SOT23 packages at \$0.16. The [AH139x](#) series is available in DFN packages at \$0.18 in 1,000 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](http://www.diodes.com).

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