



Space-Saving, High-Voltage, Dual-Output, Automotive-Compliant Hall-Effect Sensors from Diodes Incorporated Deliver Accurate Speed/Directional Data

Plano, Texas – September 19, 2023 – Diodes Incorporated (Diodes) (Nasdaq: DIOD) today introduced a new portfolio of high-sensitivity Hall-effect sensors. Devices in the robust [AH39xxQ](#) series provide accurate speed and directional data or two independent outputs. These sensors are designed for industrial and automotive applications such as detecting rotational and linear speed/direction and determining the angular position of a rotating shaft.

In line with automotive battery requirements, the AH39xxQ series Hall-effect sensors operate over a wide supply voltage range of 2.7V to 27V. They also have a 40V absolute maximum rating, enabling them to safely handle 40V load dumps. Additionally, -18V of reverse voltage protection guards against incorrect battery connections. For added robustness, the electrostatic discharge (ESD) protection provided by these devices exceed the automotive norms of 5kV human body model (HBM) and 2kV charge device model (CDM).

Three B_{OP}/B_{RP} options are offered, with typical values of 10/-10 gauss, 25/-25 gauss, and 75/-75 gauss, while their narrow operating window ensures accurate and reliable switching points. Dual-channel operation means these sensors can replace two latch switches, reducing PCB space and overall component costs. Combining chopper-stabilized amplifiers with an advanced Hall plate design mitigates switch point drift, ensuring accurate measurements over a broad temperature range.

The self-diagnostic features of the AH397xQ make them suitable for ISO 26262-compliant systems. For extra reassurance, these devices enter a safe operating mode if an error, such as overtemperature or undervoltage lockout, is detected.

The AH39xxQ series Hall-effect sensors from Diodes are AEC-Q100 Grade 0 qualified, manufactured in IATF 16949 certified facilities, and support PPAP documentation. They are supplied in TSOT25 packages. In 1,000 piece quantities, the [AH396xQ](#) series are available at \$0.40 and the [AH397xQ](#) series are available at \$0.44. 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.

Automotive-compliant – AEC qualified, manufactured in IATF certified facilities supporting PPAP documents.

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