



High-Voltage, Automotive-Compliant, Hall-Effect Latches from Diodes Incorporated Provide Improved Resistance to Physical Stress

Plano, Texas – December 19, 2023 – Diodes Incorporated (Diodes) (Nasdaq: DIOD) adds the [AH371xQ](#) series of high-voltage Hall-effect latches to its product portfolio. These automotive-compliant devices feature a proprietary Hall plate design that boosts performance. They are used for brushless DC (BLDC) motor control, valve operation, linear and incremental rotary encoders, and position-sensing functions. Based on this, the AH371xQ series can support numerous in-vehicle comfort and engine management applications—including window power-lift and sunroof movement, tailgate opening/closing mechanisms, seat adjustment motors, cooling fans, water/oil pumps, and speed measurement.

These Hall-effect latches have an operating voltage range from 3V to 27V, with 40V load dump protection. This gives them the versatility to integrate into a wide variety of automotive systems. The devices have a chopper-stabilized design that mitigates the effects of thermal variation and provides enhanced stray field immunity. Their power-on time is typically 13 μ s.

Covering 25 gauss to 140 gauss, there is a selection of six sensitivity options, with tight operating windows and low temperature coefficients for switch points. These options give engineers scope for different magnetic operating (B_{OP}) and magnetic release (B_{RP}). Consequently, they can find the best fit in relation to the sensing distance and the magnets used. Open-drain outputs lead to greater external pull-up flexibility when it comes to voltages that are higher or lower than the supply voltage.

The latches in the AH371xQ series have an 8kV human body model (HBM) electrostatic discharge (ESD) rating. Protection features integrated into each of these devices include reverse blocking diode, overcurrent protection, and overvoltage clamp.

These new automotive-compliant Hall-effect latches from Diodes are AEC-Q100 Grade 0 qualified, manufactured in IATF 16949 certified facilities, and support PPAP documentation. The AH371xQ family is available in SOT23 (Type S), SC59, and SIP-3 (Bulk Pack) packages, while the AH3712Q is also supplied in

U-DFN2020-6 (SWP) packages. The [AH371xQ](#) series is available at \$0.32 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.

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Company Contact:

Gurmeet Dhaliwal
Director, Investor Relations & Corporate Marketing
Diodes Incorporated
+1 408-232-9003
[Contact Us](#)