



New Product Announcement

AH1711, AH1712,
AH1713, AH1714

High-Sensitivity, Low-Voltage Hall Effect Latches for Angular and Rotational Positioning Applications

The DIODES AH171x series is a low-voltage, high-sensitivity Hall-Effect latch IC. The devices are designed for brushless DC-motor commutation speed measurement, angular or linear encoders, and position sensors in industrial applications.

They are optimized to operate across the 2.4V to 5.5V supply range and -40 to +125°C temperature range, enabling them to support a wide range of demanding applications. A chopper-stabilized architecture and an internal regulator with temperature compensation enables the AH171x to provide a reliable solution across the entire operating range.

The AH171x series has three magnetic operate and release points (B_{OP} and B_{RP}) ranging from a typical 7G to 50G with open-drain output, with one option providing an inverted output.

The AH171x are available in the industry-standard SOT23 package.



The DIODES Advantage

The AH171x family provides a low-voltage, high-sensitivity solution for angular and rotational positioning.

- **Three High-Sensitivity B_{OP}/B_{RP} Options with Tight-Operating Windows**
Accurate reliable switch points
- **2.4V to 5.5V Supply Range with Wide -40 to +125°C Temperature Range**
Direct operation from standard μ C supply rails and industrial temperatures
- **Chopper Stabilized Design**
Provides minimal switch-point drift for stable and reliable detection
- **High 8kV HBM and 2kV CDM ESD Ratings**
Robust and reliable detection
- **Open-Drain Outputs in Industry-Standard SOT23**
Provides a high-flexibility solution; AH1714 provides opposite magnetic-field polarity switching

Applications

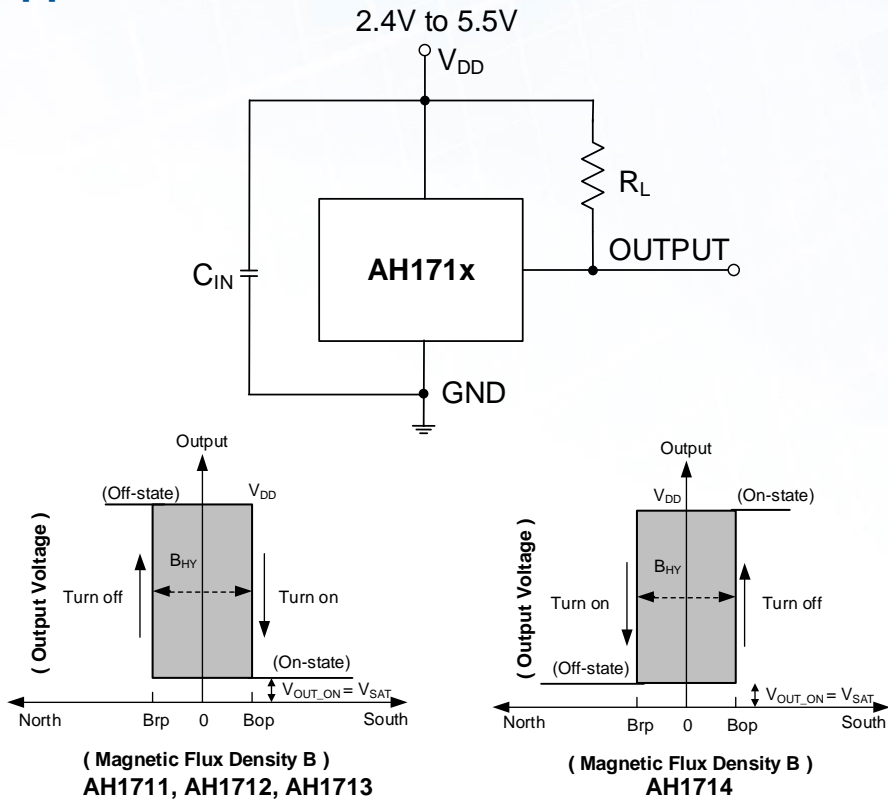
- Brushless DC-motor commutations
- Revolution per minute (RPM) measurements
- Wheel speed/angular/speed sensing
- Flow meters
- E-bikes

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Typical Application



Low-Voltage Latch Portfolio

Part Number	Output Type	Operating Voltage	Supply Current	Output Polarity	ESD HBM	Operating Point	Release Point	Ambient Temperature Range	Package
		V	mA		kV	B_{OP} (Gauss)	B_{RP} (Gauss)	$^{\circ}C$	
AH1711	Open Drain	2.4 to 5.5	2.0	Direct	8	7	-7	-40 to +125	SOT23
AH1712	Open Drain	2.4 to 5.5	2.0	Direct	8	18	-18	-40 to +125	SOT23
AH1713	Open Drain	2.4 to 5.5	2.0	Direct	8	50	-50	-40 to +125	SOT23
AH1714	Open Drain	2.4 to 5.5	2.0	Inverted	8	18	-18	-40 to +125	SOT23

Ordering Information

Part Number	Compliance (Only Automotive supports PPAP)	Packaging	Packaging Code	Moisture Sensitivity	Tape Width	Carrier	
						Quantity	Reel Size
AH1711-SA-7	Standard	SOT23	SA	MSL-1	8mm	3,000	7" Tape & Reel
AH1712-SA-7	Standard	SOT23	SA	MSL-1	8mm	3,000	7" Tape & Reel
AH1713-SA-7	Standard	SOT23	SA	MSL-1	8mm	3,000	7" Tape & Reel
AH1714-SA-7	Standard	SOT23	SA	MSL-1	8mm	3,000	7" Tape & Reel