



New Product Announcement

AH1711Q, AH1712Q,
AH1713Q, AH1714Q

High-Sensitivity, Low-Voltage, Automotive-Compliant Hall-Effect Latches for Rotational Speed Sensing and Positioning Applications

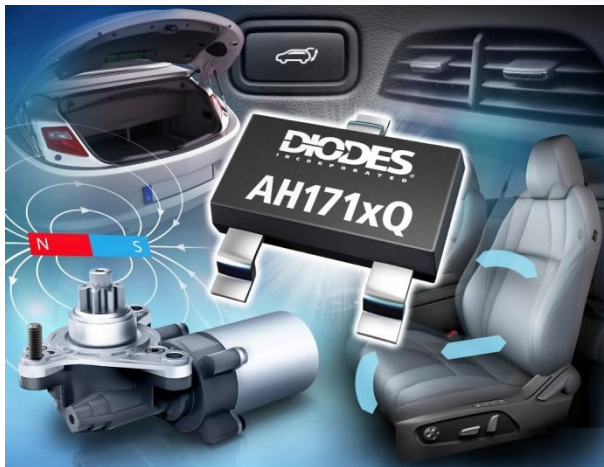
The AH171xQ series is a low-voltage, high-sensitivity, Hall-effect latch IC for automotive rotation detection applications such as brushless DC-motor commutation, speed measurement, angular or linear encoders, and positioning.

These devices are optimized to operate across the 2.4V to 5.5V supply range and -40°C to +150°C temperature range, enabling them to support a wide range of demanding applications.

The AH171xQ's chopper-stabilized architecture and internal temperature-compensated regulator allows them to provide a reliable solution across the entire operating range.

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

The AH171xQ are available in the industry-standard SOT23 package.



The DIODES Advantage

The AH171xQ 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**
Provides accurate and reliable switch points
- **2.4V to 5.5V Supply Range**
Enables direct operation from standard μ C supply rails
- **Fast 30kHz Sensing Bandwidth**
Supports higher rotational speed sensing
- **High 8kV HBM and 2kV CDM ESD Ratings**
Maintains robust and reliable detection
- **AEC-Q100 Grade 0 Qualified (-40°C to +150°C Temperature)**
Provides a flexible solution for different automotive application needs

Applications

- Brushless DC-motor commutations
- Revolutions per minute (RPM) measurements
- Rotational speed/angular/speed sensing
- Fuel pumps/windows/sliding doors

Automotive-compliant - AEC qualified, manufactured in IATF 16949 certified sites supporting PPAP documents.

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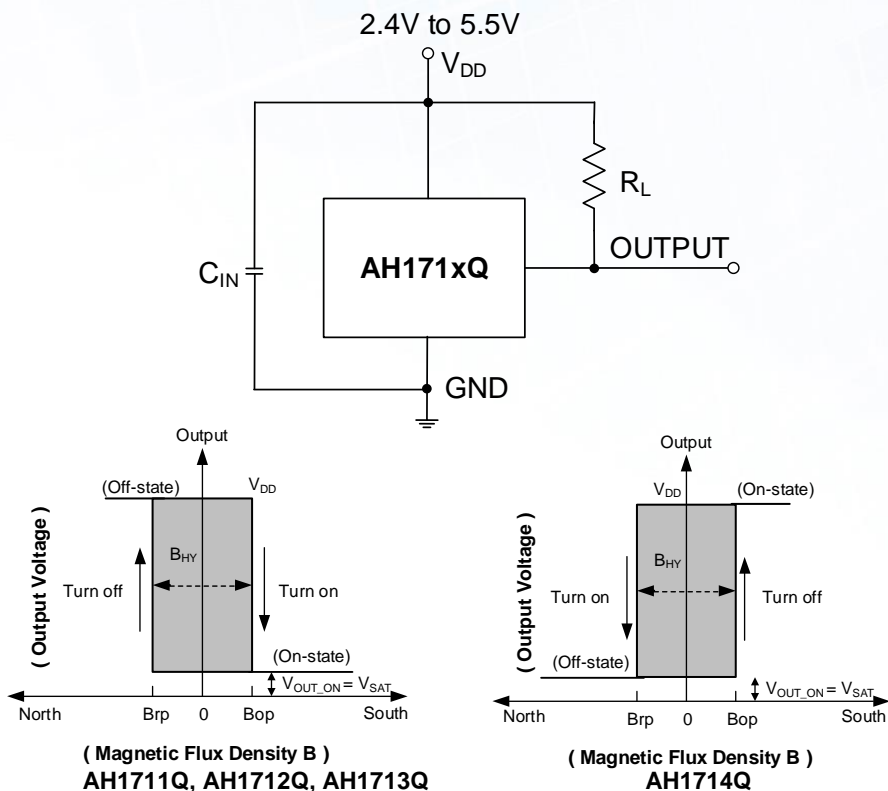
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Typical Application



Low-Voltage Latch Portfolio

Part Number	Output Type	Operating Voltage	Supply Current	Output Polarity	ESD HBM	Typical Operating Point (B _{OP})	Typical Release Point (B _{RP})	Ambient Temperature Range	Package
		V	mA		kV	Gauss	Gauss		
AH1711Q	Open-Drain	2.4 to 5.5	2.0	Direct	8	7	-7	-40 to +150	SOT23
AH1712Q				Direct		18	-18		
AH1713Q				Direct		50	-50		
AH1714Q				Inverted		18	-18		

Ordering Information

Orderable Part Number	Compliance (Only Automotive Supports PPAP)	Package	Package Code	Moisture Sensitivity	Tape Width	Packing	
						Quantity	Carrier
AH1711Q-SA-7	Automotive	SOT23	SA	MSL-1	8mm	3,000	7" Tape & Reel
AH1712Q-SA-7	Automotive	SOT23	SA	MSL-1	8mm	3,000	7" Tape & Reel
AH1713Q-SA-7	Automotive	SOT23	SA	MSL-1	8mm	3,000	7" Tape & Reel
AH1714Q-SA-7	Automotive	SOT23	SA	MSL-1	8mm	3,000	7" Tape & Reel