



## New Product Announcement

AH336xQ/AH339xQ  
Automotive Compliant  
AEC-Q100 Grade 0

### AH336xQ/AH339xQ – Automotive Compliant Unipolar Hall Effect Family with Market-Leading Performance

AH336xQ and AH339xQ are new Automotive Compliant high-performance Unipolar Hall Effect sensors qualified to AEC-Q100 Grade 0 with an extended temperature range of -40 to +150°C.

Using a chopper stabilized architecture and an internal bandgap regulator, the AH336xQ and AH339xQ provide a reliable solution over the entire operating range. For robustness and protection, they have supply rail reverse blocking with Zener clamp, and overcurrent limit with Zener clamp on the output.

When the magnetic flux density ( $B$ ) perpendicular to the package marking is larger than the operate point ( $B_{OP}$ ), the output is switched on (pulled low) and is held on until the magnetic flux density  $B$  is lower than the release point ( $B_{RP}$ ) or the opposite pole is applied.

The magnetic operating and release polarity are opposite for SOT23 and SC59 packages. The SOT23, SIP-3 (Ammo Pack) and SIP-3 (Bulk Pack) packages require south pole to the part marking side to operate while SC-59 requires north pole to the part marking side.



#### The Diodes Advantage

**AH336xQ and AH339xQ provide reliable and high-performance Unipolar sensors for automotive applications.**

- **High-Performance Hall Effect Unipolar Range**
  - 10 sensitivity options with excellent tolerance, tight operating window (less magnetic spread) and low temperature coefficients for switch points.
  - Magnetic characteristics specified over the entire operating range
  - Fast "power on" of 10 $\mu$ s and response time of 3.75 $\mu$ s with wide bandwidth
- **Product Flexibility**
  - Designed for a wide range of applications: 3 to 28V and -40 to +150°C
  - Industry standard SOT23, SC-59 and SIP-3 package options with SC-59 providing inverse operating magnetic polarity detection to SOT23
  - Open-drain output for pull-up voltage level flexibility
  - High levels of integration (reduced component count)
- **Stability, Reliability and Robustness**
  - Chopper stabilized design to provide minimal switch point drift
  - Superior temperature and supply line stability
  - Supply rail and output clamps with Output Current Limit
  - 32V reverse voltage protection
  - High ESD (HBM) rating of 8kV

#### Circuit Functions

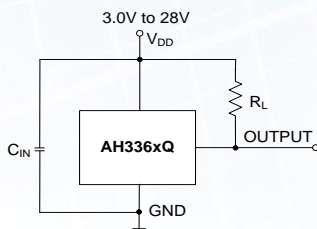
- Position and Proximity Sensing in Automotive Applications
- 12V Open and Close Detect
- Level Detect
- Flow Meters
- Contact-less switches



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AEC-Q100 Grade 0

## Typical Application Schematic



## Product Portfolio

Part	Automotive Compliant	AEC-Q100	Output Type	Operating Voltage (V)	Ave Supply (mA)	Copper Stabilized	Reverse Protection	Current Limit	ESD HBM/CDM (kV)	Bop (gauss)	Brp (gauss)	Ambient Temp. Range (°C)	Package
AH3362Q	Yes	Grade 0	Open Drain	3 to 28	3	Yes	Yes	Yes	8/2	30	20	-40 to +150	SC59, SOT23, SIP-3
AH3363Q										55	35		SC59, SOT23, SIP-3
AH3364Q										80	60		SOT23, SIP-3
AH3365Q										100	80		SOT23, SIP-3
AH3366Q										100	85		SC59, SOT23, SIP-3
AH3367Q										115	90		SC59, SOT23, SIP-3
AH3368Q										155	130		SOT23, SIP-3
AH3369Q										175	150		SOT23, SIP-3
AH3390Q										220	195		SC59, SOT23, SIP-3
AH3391Q										275	250		SOT23, SIP-3

## Ordering Information

Orderable Part	Packaging	Part Marking	Bulk	Ammo	7" Tape and Reel	
			Quantity	Quantity	Tape Width	Quantity
AH3362Q-P-A / AH3362Q-P-B	SIP-3 (Ammo) / (Bulk)	3362Q	1,000	4,000	-	-
AH3362Q-SA-7	SOT23	ME	-	-	8mm	3,000
AH3362Q-W-7	SC59	DE	-	-	8mm	3,000
AH3363Q-P-A / AH3363Q-P-B	SIP-3 (Ammo) / (Bulk)	3363Q	1,000	4,000	-	-
AH3363Q-SA-7	SOT23	MF	-	-	8mm	3,000
AH3363Q-W-7	SC59	DF	-	-	8mm	3,000
AH3364Q-P-A / AH3364Q-P-B	SIP-3 (Ammo) / (Bulk)	3364Q	1,000	4,000	-	-
AH3364Q-SA-7	SOT23	MG	-	-	8mm	3,000
AH3365Q-P-A / AH3365Q-P-B	SIP-3 (Ammo) / (Bulk)	3365Q	1,000	4,000	-	-
AH3365Q-SA-7	SOT23	MH	-	-	8mm	3,000
AH3366Q-P-A / AH3366Q-P-B	SIP-3 (Ammo) / (Bulk)	3366Q	1,000	4,000	-	-
AH3366Q-SA-7	SOT23	MJ	-	-	8mm	3,000
AH3366Q-W-7	SC59	DJ	-	-	8mm	3,000
AH3367Q-P-A / AH3367Q-P-B	SIP-3 (Ammo) / (Bulk)	3367Q	1,000	4,000	-	-
AH3367Q-SA-7	SOT23	MK	-	-	8mm	3,000
AH3367Q-W-7	SC59	DK	-	-	8mm	3,000
AH3368Q-P-A / AH3368Q-P-B	SIP-3 (Ammo) / (Bulk)	3368Q	1,000	4,000	-	-
AH3368Q-SA-7	SOT23	MM	-	-	8mm	3,000
AH3369Q-P-A / AH3369Q-P-B	SIP-3 (Ammo) / (Bulk)	3369Q	1,000	4,000	-	-
AH3369Q-SA-7	SOT23	MN	-	-	8mm	3,000
AH3390Q-P-A / AH3390Q-P-B	SIP-3 (Ammo) / (Bulk)	3390Q	1,000	4,000	-	-
AH3390-SA-7	SOT23	MX	-	-	8mm	3,000
AH3390Q-W-7	SC59	DX	-	-	8mm	3,000
AH3391Q-P-A / AH3391Q-P-B	SIP-3 (Ammo) / (Bulk)	3391Q	1,000	4,000	-	-
AH3390-SA-7	SOT23	MY	-	-	8mm	3,000