Hall Sensor Products

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DIODES' Hall Effect Sensor Product Family Overview

Hall Effect Sensors

Linear

Single Output

1.6V to 3.6V
AH8500
AH8501
AH8502
AH8503

3V to 8V
AH49E
AH49F
AH49H

Latch Switch

Single Output

3V to 28V
AH3763Q
:
AH3769Q

High performance
AH371xQ

Dual Hall
AH39xxQ
Two-wire
2.7V to 27V
AH327xQ
AH328xQ
(ISO 26262-Ready)

2.5V to 5.5V
AH171xQ

Single Output

3V to 28V
AH3774
AH3775
AH3776
AH3777
AH3782 (Rpu)

Unipolar Switch

Single Output

3V to 28V
AH3362Q
:
AH3391Q

Two-wire
2.7V to 27V
AH323xQ
AH3234xQ
(ISO 26262-Ready)

Single Output

1.6V to 3.6V
AH3360
AH1903
Dual Output
AH1887/ AH1889
AH1389
AH1388/AH1390
2.5V to 5.5V
AH182/3
1.6V to 5.5V
AH138x/AH139x

Single Output

3V to 28V
AH3372
AH3373
AH3376
AH3377
AH3382

Omnipolar Switch

Single Output

1.6V to 3.6V
AH1925
AH1892 (CSP)
AH1893/4/5
AH1897
AH1898 (CSP)
AH1902/3

3V to 28V
AH3572/74/82

AH3562Q/3Q/4Q

Single Output
2.5V to 5.5V
AH1806
AH1807
AH1808
AH1809
AH1815
AH9246/50/51

1.6V to 5.5V
AH1911/2/3/21

New products

Under development

Battery Powered Focus

Automotive Compliant

Industrial

Programmable

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DIODES' Hall Sensor Applications

- **With its range of Unipolar, Omnipolar and Latched hall sensors DIODES supports all major markets**
- **Omnipolar switches** exhibit extremely low quiescent currents making them ideal for a wide range of simple cost-effective proximity detection applications
- **Unipolar switches** respond to only one pole type and so can be used to ignore stray fields
- **Latched Switches** with their tight tolerance on operating and release points are suited to rotational detection applications such as BLDC commutation detection

Smart E-Meters

Function

- Detect externally applied magnetic fields, which attempt to magnetically tamper with the smart E-meters operation
- Detect on unauthorized opening of smart meter lid or cover

Requirements

- North or South field detection
- Micropower operation to minimise current consumption
- Sensitivity is dependent on regional regulations
- Linear Hall for field strength detection
- High reliability and low offsets

Magnetic Tamper Proof

Key Products

Omnipolar

- AH1911/12/13/21/25
- AH1807/9/15
- AH1389 (2)

Linear Hall

- AH49F
- AH8500/1/2/3

(1) Selectable Uni/Omnipolar function
(2) Independent opposite poles sensing, dual output

Home Appliance and Personal Care

Function

- Contactless proximity detection switch (e.g., door position, cover switch push buttons, selector positions)
- Detect threshold position (e.g., in fluid levels)
- Detects shelf positions
- BLDC rotation detection (Latch/Linear)
- Docking position

Requirements

- North and South fields detection
- Micropower operation to minimize power consumption
- Wide option of detection sensitivity
- High performance, stability and reliability

Household Goods

Personal care

(1) Programmable – Gauss band selection
(2) Programmable – Uni/Omnipolar function selectable
(3) Independent opposite poles sensing, dual output

Key Products

Omnipolar
- AH1911/12/13/21/25
- AH1893/5
- AH1892/AH1894 (1)
- AH1902
- AH3572/4/82

Unipolar
- AH337x / AH3382
- AH1390 (3)
- AH1903 (2)
- AH3360

Latches
- AH3774/5/6/7
- AH3782

Linear
- AH49F
- AH8500/1/2/3

Low Voltage Omnipolar Hall Effect Switches

	Part Number	Output	Output Type	Operating Voltage	Average Supply Current	ESD	Operating Point ±Bop			Release Point ±Brp			Ambient Temp Range	Package
				(V)	(μA)	(kV)	(Gauss)			(Gauss)			(°C)	
							Min	Typ	Max	Min	Typ	Max		
Ultra Low Voltage	AH1812	Single	Open Drain	1.6 to 3.6	4.3	8	16	30	40	11	20	35	-40 to +85	X1-DFN1216-4
	AH1893	Single	Push-Pull	1.6 to 3.6	4.3	8	14	30	46	9	20	35	-40 to +85	SOT553, X1-DFN1216-4
	AH1895	Single	Push-Pull	1.6 to 3.6	4.3	8	40	60	80	35	50	65	-40 to +85	SOT553, X1-DFN1216-4
	AH1897	Single	Push-Pull	1.6 to 3.6	4.3	8	14	30	40	10	20	35	-40 to +85	X1-DFN1216-4
	AH1902	Single	Push-Pull	1.6 to 3.6	4.3	8	23	33	47	12	23	35	-40 to +85	X1-DFN1216-4 X2-DFN2015-6, SOT553 (1)
	AH1903	Single, selectable Uni/Omnipolar	Push-Pull	1.6 to 3.6	4.3	8	21	33	48	9	23	38	-40 to +85	X1-DFN1216-4
	AH1911	Single	Push Pull	**1.6 to 5.5**	**1.6**	6	30	60	90	22	45	67	-40 to +85	SC59
	AH1912	Single	Push Pull	**1.6 to 5.5**	**1.6**	6	19	30	42	17	22.5	28	-40 to +85	X1-DFN1216-4, SC59
	AH1913	Single	Push Pull	**1.6 to 5.5**	12	6	6	18	30	2	11	24	-40 to +85	
	AH1921	Single	Open Drain	**1.6 to 5.5**	**1.6**	6	30	60	90	22	45	67	-40 to +85	SC59
	AH1925	Single	Open Drain	1.6 to 3.6	**1.4**	6	14	25	35	9	20	30	-40 to +85	X1-DFN1216-4
Low Voltage	AH1806	Single	Open-Drain	2.5 to 5.5	8	6	15	30	45	10	20	40	-40 to +85	SC59, SOT553, SIP-3
	AH1808	Single	Open Drain	2.5 to 3.6	8	6	20	40	60	10	30	50	-40 to +85	SC59, SOT553, SIP-3
	AH1807	Single	Open Drain	2.5 to 5.5	8	6	50	80	115	40	65	100	-40 to +125	SC59, SOT553, SIP-3
	AH1809	Single	Open Drain	2.5 to 5.5	8	6	90	130	185	80	115	170	-40 to +125	SC59, SOT553, SIP-3
	AH1815	Single	Open Drain	2.5 to 5.5	8	6	255	380	540	230	335	495	-40 to +125	SC59, SOT553, SIP-3
	AH9246	Single	Int Pull-up R	2.5 to 5.5	8	5	9	18	27	4	12	22	-40 to +85	SC59, TO-92
	AH9247	Single	Int Pull-up R	2.5 to 5.5	8	6	20	30	40	5	20	32	-40 to +85	SC59, TO-92
	AH9250	Single	Int Pull-up R	2.5 to 5.5	8	5	30	40	50	20	30	40	-40 to +85	SC59, TO-92
	AH9251	Single	Int Pull-up R	2.5 to 5.5	8	5	40	60	80	30	50	70	-40 to +85	SC59, TO-92

Latest Ultra-low Power Omnipolar Hall Effect Switches

DIODES Advantage

Designed for portable battery-powered equipment and industrial applications with space constraints

- Ultra-low Power Due to Hibernate Clocking Design
- Wide Operating Voltage of 1.6 to 5.5V
- Chopper Stabilized Design for Accurate Switch Points
- High ESD Capability 6kV HBM
- SC59 and DFN1216 Package

Winning Applications

- Industrial – gas /water meter, medical devices, level and proximity, position switches
- Consumer – smart phones, tablet PCs, e-locks, IoT

Part Number	Output	Output Type	Operating Voltage (V)	Supply Current	Duty Cycle (%)	ESD	Operating Point Bop (Gauss)			Release Point Brp (Gauss)			Temp Range (°C)	Package
							Min	Typ	Max	Min	Typ	Max		
AH1911	Single	Push Pull	1.6 to 5.5	1.6µA	0.1	6kV	30	60	90	22	45	67	-40 to +85	SC59
AH1912				1.6µA	0.1		19	30	42	17	22.5	28		X1-DFN1216-4, SC59
AH1913				12µA	1.6		6	18	30	2	11	24		
AH1921		Open Drain		1.6µA	0.1		30	60	90	22	45	67		SC59
AH1925			1.6 to 3.6	1.4µA	0.1		14	25	35	9	20	30		X1-DFN1216-4

Low Voltage Unipolar

Part Number	Output	Output Type	Operating Voltage	Supply Current	Typical Output Current	Chopper Stabilized	Operating Point Bop (Gauss)			Release Point Brp (Gauss)			Temp Range	Package
			(V)	(uA)	(mA)		Min	Typ	Max	Min	Typ	Max	(°C)	
AH1389	Dual	Push-pull	1.6 to 3.6	4	1	Yes	13	25	39	9	20	32	-40 to +85	DFN1410-4
							-39	-25	-13	-32	-20	-9		
AH1390	Dual		1.6 to 3.6	1.3			6	17	25	2	11	20	-40 to +85	DFN1410-4
							-25	-17	-6	-20	-11	-2		
AH1388	Dual		1.6 to 3.6	12			6	17	25	2	11	20	-40 to +85	DFN1410-4
							-25	-17	-6	-20	-11	-2		
AH1887	Dual		1.65 to 3.3	7			-	35	50	6	20	-	-40 to +85	SOT553
							-50	-35	-	-	-20	-6		
AH1903	Single Sel. Uni/Omni		1.6 to 3.6	4.3			21	33	48	9	23	38	-40 to +85	DFN1216-4
AH3360	Single		1.6 to 3.6	4.3			14	30	46	9	20	39	-40 to +85	DFN1216-4 DFN2015-6
AH182	Single	Open-Drain	2.5 to 5.5	5	10		-	40	60	10	30	-	-40 to +85	SC59,SIP-3L
AH183	Single		2.5 to 5.5	280			-	40	60	10	30	-	-40 to +85	SC59, SIP-3L

DIODES Advantages

- Ultra low Bop / Brp drift over full temperature range
- Single and Dual, Push-pull and Open-drain output types
- Micropower operation
- Chopper stabilized design
- Small SC59, SOT553 and DFN packages

Applications

- Smart cover or dock detect for smart phones and tablet PCs
- Position Detection for camera and game consoles
- Home appliances and IoT
- Wireless earbuds

AH1389 - Ultra Sensitive Dual-Output Unipolar Hall Effect Switch

- Notebook close detection (Proximity)
- Product key features:
  - Dual-output for south and north poles
  - Small DFN1410 package
  - 8kV HBM ESD
- DIODES Advantage
  - Lower supply current
  - Higher 8kV ESD value

- **High-sensitivity with tight magnetic switch points**
  Maintains switch points accuracy ensuring correct operation
- **Low 1.6 to 3.6V supply voltage**
  Supports standard I/O rails and Li-ion battery range
- **Tiny 4µA Quiescent current**
  Minimal power consumption extends battery life
- **Small footprint DFN1410 package**

High Voltage Unipolar

Compliance	Part Number	Output Type	V_{IN} Range (V)	I_{DD} (mA)	Min Bop	Typ Bop	Max Bop	Min Brp	Typ Brp	Max Brp	Typical Hysteresis Bhys (gauss)	Features	Packages
					(Bxps +ve/ Bxpn -ve) gauss								
Standard	AH3372	Open-Drain	3 - 28	3	15	30	45	5	20	35	10	Reverse blocking, Overcurrent protection, Overvoltage clamp Standard – 6kV HBM Automotive – 8kV HBM	SC59, SOT23, SIP3
	AH3373				38	55	72	20	35	50	20		
	AH3382	Pull-up resistor			40	55	70	20	35	50	20		
	AH3376	Open-Drain			65	100	135	50	85	120	15		
	AH3377				95	115	140	70	90	120	25		
Automotive	AH3362Q	Open-Drain			15	30	45	5	20	35	10		
	AH3363Q				40	55	72	20	35	50	20		
	AH3364Q				60	80	100	40	60	80	20		SOT23, SIP3
	AH3365Q				80	100	120	60	80	100	20		
	AH3366Q				65	100	135	50	85	120	15		SC59, SOT23, SIP3
	AH3367Q				95	115	140	70	90	120	25		
	AH3368Q				130	155	180	105	130	160	25		SOT23, SIP3
	AH3369Q				150	175	200	125	150	180	25		
	AH3390Q				180	220	240	155	195	220	25		SC59, SOT23, SIP3
	AH3391Q				235	275	295	210	250	275	25		SOT23, SIP3

Applications

Automotive

sunroof, window, seatbelt buckle, seat position, wipers, door lock, contact-less switches

Standard (Industrial/Home Appliance)

Power tools, Air Conditioners, washing /drying machine, coffee machine, vacuum cleaning, floor mopping robot, microwave, oven

AH3366Q Competition Comparison

Supplier	Diodes	Infineon	Allegro
Part No	AH3366Q	TLE4694-4M	A1121
Type	Single output Unipolar	Single output Unipolar	Single output Unipolar
Supply Voltage	3V to 28V	3V to 32V	3V to 24V
Average operation current	3mA	1.6mA	4mA (Max)
Output Structure	Open drain	Open Drain	Open Drain
Bop,min/typ/max (Gauss)	65/100/135 (full temp range)	43/100/151 (full temp range)	50/95/135 (room temp)
Brp,min/typ/max (Gauss)	40/60/80	35/85/130	40/70/110
Hysteresis(Gauss)	20	15	25
Response Time Delay	3.75us	15us	N/A
Chopping Frequency	800kHz	350kHz	800kHz
ESD (HBM)	8kV	7kV	N/A
Temp Range	-40 to +150℃ (Ta)	-40 to +170℃ (Tj)	-40 to +150℃ (Ta)
Package	SOT23 SIP-3	SOT23	SOT23, SIP-3

High Voltage Omnipolar

Part Number	Compliance	Output Type	VDD	IDD	Min	Typ	Max	Min	Typ	Max	Hysteresis Bhys	Features	Packages
					Bop (Bops +ve/ Bopn -ve)			Brp (Brps +ve/Brpn -ve)					
			V	mA	gauss	gauss	gauss	gauss	gauss	gauss	gauss		
AH3572	Standard	Open-Drain	3 to 28	3	±10	±20	±30	±5	±10	±20	10	• Reverse blocking • Overcurrent protection • Overvoltage clamp	SOT23, SIP3
AH3574					±20	±40	±60	±10	±25	±45	15		
AH3582		Pull-up resistor			±20	±40	±60	±10	±25	±45	15		
AH3562Q	Automotive	Open-Drain			±10	±20	±30	±5	±10	±20	10		
AH3563Q					±15	±30	±45	±10	±20	±35	10		
AH3564Q					±20	±40	±60	±10	±25	±45	15		

DIODES Advantages

- Wide input voltage range 3 – 28V
- Ultra low switch-point drift over full operating range
- Protections – Input/output voltage clamp, output current limit
- High ESD capability 6kV for industrial and 8kV for Q parts (HBM)
- AEC-Q100 grade 0 qualified (AH33xxQ)

Applications

- Automotive – position and proximity sensing, contactless switches, seatbelt buckle, seat position
- Home appliance – Power tools, Air Conditioning, washing /drying machine, coffee machine, vacuum cleaning, floor mopping robot, microwave, oven

Industrial Applications

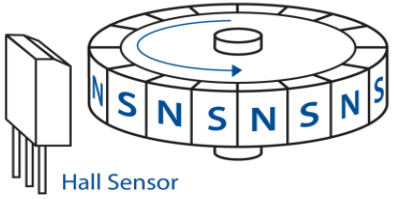
Function

- Detects motor commutation points and provides a switch change-over trigger signal to motor pre-drivers or microcontrollers
- Detects North-South magnetic point change-over in flow meters to calculate the number of revolutions

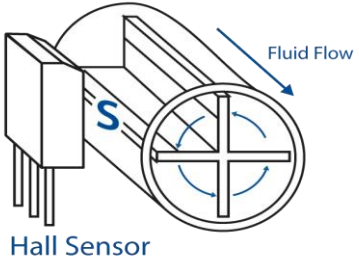
Requirements

- Bipolar latch operation:
  switch on south pole and switch off-on opposite north pole
- Symmetrical ‘Operate’ and ‘Release’ points
- High performance, stability and reliability

Pulse Encoder – Position Sensor



Flow Meters



(1) Independent opposite poles sensing, dual output
(2) Omni or Uni - Function Selectable

Key Products

Latches

- AH3772/4
- AH3775/6/7
- AH3781/2

Linear Hall

- AH49F
- AH8500/1/2/3

High Voltage Latch

Part Number	Compliance	Output Type	VDD	IDD	Min Bop (Bops +ve/ Bopn -ve)	Typ Bop (Bops +ve/ Bopn -ve)	Max Bop (Bops +ve/ Bopn -ve)	Min Brp (Brps +ve/Brpn -ve)	Typ Brp (Brps +ve/Brpn -ve)	Max Brp (Brps +ve/Brpn -ve)	Hysteresis Bhys	Features	Packages
			V	mA	gauss	gauss	gauss	gauss	gauss	gauss	gauss		
AH3774	Standard	Open-Drain	3 to 28	3	20	40	60	-60	-40	-20	80	• Reverse blocking, • Overcurrent protection, • Overvoltage clamp	SC59, SOT23, SIP3
AH3782	Standard	Pull-up resistor		3.8	20	40	60	-60	-40	-20	80		
AH3775	Standard	Open-Drain		3	50	70	90	-90	-70	-50	140		
AH3776	Standard				80	110	140	-140	-110	-80	220		SOT23, SIP3
AH3777	Standard				110	140	170	-170	-140	-110	280		
AH3763Q	Automotive				15	30	45	-45	-30	-15	60		SC59, SOT23, SIP3
AH3764Q	Automotive				20	40	60	-60	-40	-20	80		
AH3765Q	Automotive				50	70	90	-90	-70	-50	140		
AH3766Q	Automotive				80	110	140	-140	-110	-80	220		SOT23, SIP3
AH3767Q	Automotive				110	140	170	-170	-140	-110	280		
AH3768Q	Automotive				140	175	200	-200	-175	-200	350		
AH3769Q	Automotive				170	220	250	-250	-220	-170	440		

DIODES Advantages

- Wide input voltage range 3 – 28V
- Ultra low switch-point drift over full operating range
- Protections – Input/output voltage clamp, output current limit
- High ESD capability 6kV for industrial and 8kV for Q parts (HBM)
- AEC-Q100 grade 0 qualified (AH33xxQ)

Applications

- Automotive – sunroof, window lift, chair motor, tail-gate motor, air conditioner, water pump, flow meter
- Brushless DC motor commutation
- Home appliance – Power tools, AC, washing /drying machine, coffee machine, vacuum cleaning, floor mopping robot, microwave, oven

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DISCRETE
ANALOG
LOGIC
MIXED-SIGNAL

Automotive Applications

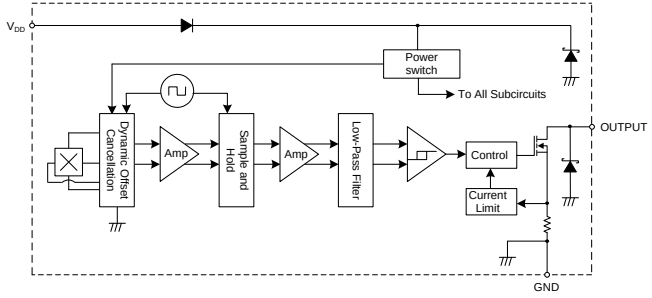
Function

- Contactless proximity and position detection for BLDC motors commutation, speed measurement and incremental rotary and linear encoders/position sensors
- Window lift, Sunroof, mirror fold, Tailgate, Seat adjustment, Seat cooling fans, dashboard electronics cooling fan, Steering wheel incremental rotary angle, oil and fuel pumps

Requirements

- Operates from 4V (crank voltage) to 18V
- Wide ambient temperature -40ºC to +150ºC
- Protection features – clamps, reverse voltage, output current limits, HBM ESD >4kV
- High performance, stability and reliability
- AEC-Q100 grade 0 with PPAP support

Automotive



(1) High Voltage High Performance Automotive Hall sensor family AECQ100 grade 0 (-40C to 150C) qualified with PPAP support.
(2) SOT23, SC59 and SIP3 package options

Key Products

Latches

- AH3763Q
- AH3764Q/65Q
- AH3766Q/67Q
- AH3768Q/69Q

Unipolar

- AH3362Q/63Q
- AH3364Q/65Q
- AH3366Q/67Q
- AH3368Q/69Q
- AH3390Q/91Q

Omnipolar

- AH3562Q/63Q
- AH3564Q

AH3562Q - High Voltage Omnipolar Hall Effect Switch

- **Soft Close Door**
- Product key features:
  - High-sensitivity – with tight tolerance
  - AEC-Q100 Grade 0 Qualified
  - 8kV HBM ESD
- DIODES Advantage
  - Tight switch/release point tolerances
  - Wider Input Voltage Range
  - 8kV ESD Rating

- **Precise and stable omnipolar Hall switch points**
  Maintains switch points accuracy ensuring correct operation
- **Wide operating voltage range (3V to 28V)**
- **AEC-Q100 Grade 0 wide (-40 to +150˚C) temperature range**
  Flexible solution for different automotive application conditions
- **High ESD (8kV) and multiple protection functions**
  Robust and rugged solution for automotive proximity detection
- **Industry standard SOT23 and SIP-3 packages**
  Ease of use and placement

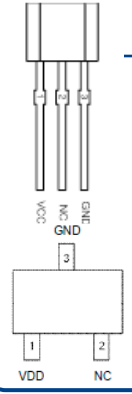
AH32xxQ: Automotive Two-wire Hall-Effect Unipolar/Latch

DIODES Advantage

Advanced designed for position and proximity sensing in automotive applications

- **Integrated self diagnostics (AH324xQ/328xQ)**
- **High sensitivity**
- **Wide operating voltage range**
- **Chopper stabilized for improved tolerance and stability**
- **High ESD (8kV) capability**

Product Characteristics



Pin #	2-Wire Hall Sensor	3-Wire Hall Sensor
1	VCC - input power supply, use bypass capacitor to connect to GND,	VCC - input power supply, use bypass capacitor to connect to GND
2	**NC**	Vout - Output signal, use for programing/test
3	GND	GND

Part		Active Pole	Behavior	V_{DD} Range (V)	Ion	Ioff	ESD	Operating Point Bop (Gauss)			Release Point Brp (Gauss)			Temp Range (°C)	Package
ISO 26262 -Ready	Standard				Supply Current (mA)			Min	Typ	Max	Min	Typ	Max		
AH3280Q	AH3270Q	Direct South	Latch	2.7 to 27	14.5	3.3	8kV	3	18	33	-33	-18	-3	-40 to +150	SC59,SIP3
AH3281Q	AH3271Q	Direct South		2.7 to 27	14.5	6	8kV	3	18	33	-33	-18	-3	-40 to +150	SC59,SIP3
AH3282Q	AH3272Q	Direct South		2.7 to 27	14.5	3.3	8kV	10	30	50	-50	-30	-10	-40 to +150	SC59,SIP3
AH3241Q	AH3231Q	Inverted South	Unipolar	2.7 to 27	14.5	6	8kV	55	90	135	35	70	115	-40 to +150	SC59,SIP3
AH3242Q	AH3232Q	Direct South		2.7 to 27	14.5	6	8kV	30	60	90	10	40	70	-40 to +150	SC59,SIP3
AH3243Q	AH3233Q	Direct South		2.7 to 27	14.5	6	8kV	20	45	70	3	28	53	-40 to +150	SC59,SIP3

Functional Safety of AH324xQ / AH328xQ

- AH324xQ / AH328xQ integrate self-diagnostic function designed for the systems requiring functional safety. Self-diagnostic operates automatically in background without the need of activation by users.
- Once an error is detected, the device enters “Safe Mode” and the output (supply) current drops to 1 mA (typical) as a warning signal.
- The following functions are monitored:
  1. Vdd under-voltage detection
  2. Over-temperature detection
  3. Self test for major functional blocks
- DIODES classifies the AH324xQ / AH328xQ as ISO 26262-Ready.
- ISO 26262-Ready means:
  - AH324xQ/AH328xQ follow DIODES’ quality-managed process and ISO 26262 reviewed design process
  - We can provide:
    - FMEDA(Failure Mode Effects and Diagnostic Analysis),
    - Functional Safety FIT rate calculation,
    - Safety Manual to customers. (NDA needed)
  - AH324xQ / AH328xQ do not have functional safety (/ISO 26262) certificate.

AH3281Q - Two-Wire Hall Latch Switch with Self-Diagnostics

- Power Window
- Product key features:
  - Self-diagnostics for ASIL Compliance Extra protection
  - Current Output (two-wire)
  - AEC-Q100 Grade 0 Qualified
- DIODES Advantage
  - Self-diagnostics
  - Wider Input Voltage Range
  - 8kV ESD Rating

- **Precise and stable Latch switch points across range**
  Maintains switch points accuracy ensuring correct operation
- **Wide operating voltage range, 2.7V to 27V**
  Supports automotive battery range
- **AEC-Q100 Grade 0 wide (-40 to +150˚C) temperature range**
  Provides flexible solution for different automotive application conditions
- **Self-diagnostics for increasing functional-safety requirements**
  Dedicated safe mode helps to create a safer system.

AH39xxQ: Automotive Dual Hall-Effect Latch with Speed & Direction Detection with/out ISO 26262-Ready

Sample Q3'21
Production Q4'21

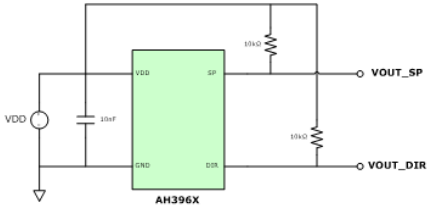
Part Name		Compliance	VDD (V)	IDD (mA)	BOP (Gauss)			BRP (Gauss)			Hysteresis (Gauss)			Magnetic Matching (Gauss)		Magnetic Offset (Gauss)		Output			
No Diagnostic	ISO 26262 -Ready				Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Min	Max	Min	Max	OUT 1	OUT 2	SPD	DIR
AH3965Q	AH3975Q	Automotive	2.7~ 27	50	2	10	30	-30	-10	-2	5	20	35	-25	25	-15	15			V	V
AH3966Q	AH3976Q	Automotive			10	25	40	-40	-25	-10	40	50	60	-15	15	-15	15			V	V
AH3967Q	AH3977Q	Automotive			50	75	100	-100	-75	-50	120	150	180	-30	30	-20	20			V	V
AH3968Q	AH3978Q	Automotive			50	75	100	-100	-75	-50	120	150	180	-30	30	-20	20	V	V		

DIODES Advantage

- Wide operating voltage range 2.7V ~ 27V
- Chopper stabilized, superior temperature stability
- Reverse battery protection -18V
- AH397xQ have diagnostics, ISO26262-Ready
- Small TSOT25 package

Applications

- Rotation speed & direction
- Window lifter with anti-pinch
- Seat motors
- Tailgate / sunroof motors



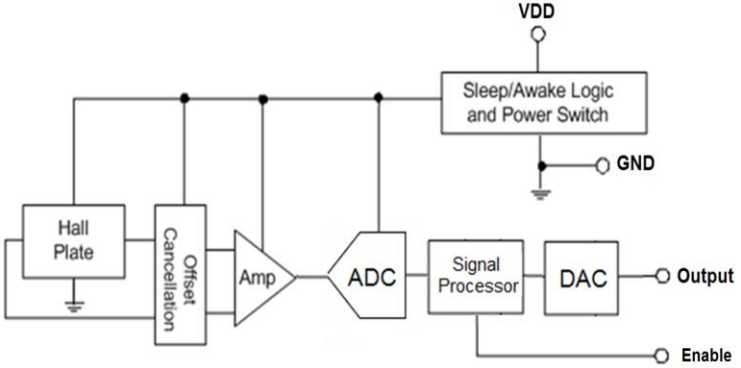
DIODES INCORPORATED
DISCRETE ANALOG LOGIC MIXED-SIGNAL

AH850x Micropower Power Linear Hall Sensor

Part Number	Operating Voltage (V)	Supply Current	Sample Frequency	Sensitivity			Ambient Temp Range (°C)	Package
				Gauss	Resolution	Sensitivity (@1.8V)		
AH8500	1.6 to 3.6	Mode & Freq Dependent: • 8.9uA -Sleep • 1.16 @ 7.14kHz	Enable pin controlled	-430 to +430	3.13G (256 steps)	2.1mV/G	-40 to 85	U-DFN2020-6
AH8501 Trimmed				-400 to +400		2.25mV/G		
AH8502	1.6 to 3.6	13µA – Micropower Mode 1mA -Turbo Mode	24Hz Sampling control & Turbo mode	-430 to +430	3.13G (256 steps)	2.1mV/G	-40 to 85	U-DFN2020-6
AH8503 Trimmed				-400 to +400		2.25mV/G		

DIODES Advantage

- High performance 8-bit Linear Hall IC
  - Low noise, low offset, low temp coef., Trimmed sensitivity option
- Low operating voltage down to 1.6V
- AH8500/1: Sleep, Auto-Run and External Drive Modes
- AH8502/3: Micropower, Turbo and External Drive Modes
- Chopper stabilized and high ESD (6kV)
- Small low profile U-DFN2020-6



Thank you, Vielen Dank, Grazie, Merci,
Gracias, Teşekkür ederim, Děkuji
ありがとうございました
고맙습니다,谢谢, धन्यवाद