



New Product Announcement

AH371x

High-Voltage Hall-Effect Latch Family with Enhanced Robustness for Industrial Applications

The AH371x is a family of high-voltage, high-performance Hall-effect latches for brushless DC motor commutation, speed measurement, and incremental rotary and linear encoders/position sensors.

The devices consist of six variants of magnetic operate and release points (B_{OP} and B_{RP}) ranging from a typical ± 25 to ± 140 Gauss. This new product family, with open-drain output, is resistant to physical stress, and provides a solution for a wide range of industrial applications (AH371xA integrates pull-up resistors).

To enhance system reliability, the entire family is specified over the whole operating range of 3V to 27V and -40°C to $+125^{\circ}\text{C}$.

The AH371x family incorporates reverse blocking diodes, V_{DD} and output Zener clamps, output current limiting, and high ESD ratings (8kV HBM, 1kV CDM).

All the variants are available in industry-standard packages SC59, SOT23 (Type S), and SIP-3 (Bulk Pack).



The DIODES Advantage

The AH371x family provides a reliable and high-performance Hall-effect latch for industrial and home appliances applications.

- Six Variants of Magnetic Operate and Release Points Covering ± 25 to ± 140 Gauss**
 Supports many application requirements through the family's pin compatibility
- Ultra-Low Switch-Point Drift Across Full Temperature Range with High Resistance to Physical Stress (PCB Assembly)**
 Maintains sensitivity accuracy across temperature and time
- Fast 13 μs Power-On and 5 μs Response Times**
 Provides faster and better positioning-sensing accuracy for rotor commutation in BLDC motors
- Wide V_{IN} and High 8kV HBM/1kV CDM ESD Capability**
 Improves ruggedness to meet harsh industrial needs
- SC59, SOT23 (Type S), and SIP-3 (Bulk Pack) Packages**
 Simplifies layout with industry-standard footprint

Applications

- Home and industrial appliances
- DC motors/pumps
- Flow meters
- Revolution per minute (RPM) measurement
- Angular and linear encoders and position sensors

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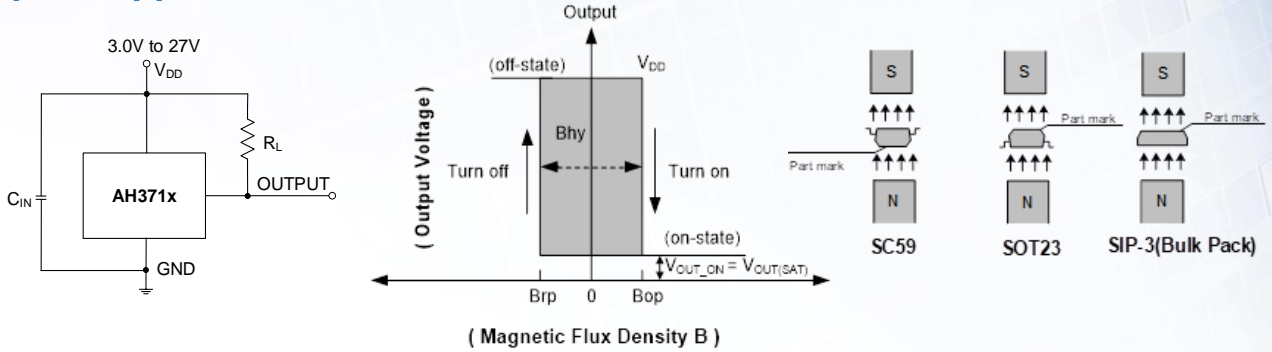
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Typical Application



Note: C_{IN} is for power stabilization and to strengthen the noise immunity. The recommended capacitance is 10nF ~ 100nF. R_L is the pull-up resistor.

High-Voltage Latch Portfolio

Part Number	Output Type	Operating Voltage	Supply Current	Reverse Protection	Current Limit	ESD HBM	B_{OP} (Typ)	B_{RP} (Typ)	Ambient Temperature Range	Package
		V	mA			kV	Gauss	Gauss	°C	
AH3712 AH3712A	Open-Drain Int. Pull-up	3 to 27	2.8	Yes	Yes	8	25	-25	-40 to +125	SC59, SOT23 (Type S), SIP-3 (Bulk Pack)
AH3713 AH3713A	Open-Drain Int. Pull-up	3 to 27	2.8	Yes	Yes	8	30	-30	-40 to +125	SC59, SOT23 (Type S), SIP-3 (Bulk Pack)
AH3714 AH3714A	Open-Drain Int. Pull-up	3 to 27	2.8	Yes	Yes	8	40	-40	-40 to +125	SC59, SOT23 (Type S), SIP-3 (Bulk Pack)
AH3715	Open-Drain	3 to 27	2.8	Yes	Yes	8	70	-70	-40 to +125	SC59, SOT23 (Type S), SIP-3 (Bulk Pack)
AH3716	Open-Drain	3 to 27	2.8	Yes	Yes	8	110	-110	-40 to +125	SOT23 (Type S), SIP-3 (Bulk Pack)
AH3717	Open-Drain	3 to 27	2.8	Yes	Yes	8	140	-140	-40 to +125	SOT23 (Type S), SIP-3 (Bulk Pack)

Ordering Information

Orderable Part Number	Compliance (Only Automotive Supports PPAP)	Package Code	Package	Part Marking	Moisture Sensitivity	Packing	
						Quantity	Carrier
AH3712-P-B	Standard	P	SIP-3	3712	MSL-1	1,000	Bulk Pack
AH3712-SA-7	Standard	SA	SOT23 (Type S)	N2	MSL-1	3,000	7" Tape & Reel
AH3712-W-7	Standard	W	SC59	UE	MSL-1	3,000	7" Tape & Reel
AH3712A-SA-7	Standard	SA	SOT23 (Type S)	N8	MSL-1	3,000	7" Tape & Reel
AH3712A-W-7	Standard	W	SC59	UM	MSL-1	3,000	7" Tape & Reel
AH3713-P-B	Standard	P	SIP-3	3713	MSL-1	1,000	Bulk Pack
AH3713-SA-7	Standard	SA	SOT23 (Type S)	N3	MSL-1	3,000	7" Tape & Reel
AH3713-W-7	Standard	W	SC59	UF	MSL-1	3,000	7" Tape & Reel
AH3713A-SA-7	Standard	SA	SOT23 (Type S)	NA	MSL-1	3,000	7" Tape & Reel
AH3714-P-B	Standard	P	SIP-3	3714	MSL-1	1,000	Bulk Pack
AH3714-SA-7	Standard	SA	SOT23 (Type S)	N4	MSL-1	3,000	7" Tape & Reel
AH3714-W-7	Standard	W	SC59	UG	MSL-1	3,000	7" Tape & Reel
AH3714A-SA-7	Standard	SA	SOT23 (Type S)	NB	MSL-1	3,000	7" Tape & Reel
AH3715-P-B	Standard	P	SIP-3	3715	MSL-1	1,000	Bulk Pack
AH3715-SA-7	Standard	SA	SOT23 (Type S)	N5	MSL-1	3,000	7" Tape & Reel
AH3715-W-7	Standard	W	SC59	UH	MSL-1	3,000	7" Tape & Reel
AH3716-P-B	Standard	P	SIP-3	3716	MSL-1	1,000	Bulk Pack
AH3716-SA-7	Standard	SA	SOT23 (Type S)	N6	MSL-1	3,000	7" Tape & Reel
AH3717-P-B	Standard	P	SIP-3	3717	MSL-1	1,000	Bulk Pack
AH3717-SA-7	Standard	SA	SOT23 (Type S)	N7	MSL-1	3,000	7" Tape & Reel