



## New Product Announcement

# AH1892

## AH1892 – The World’s Smallest Programmable Micropower Omnipolar Hall Effect Switch

The AH1892 is the world’s smallest sensitivity selectable micropower Omnipolar Hall-effect switch IC. It is designed for consumer equipments ranging from portable battery powered cell phones, tablet PCs to home appliances and industrial applications.

Although designed for multiple applications, the AH1892 has been optimized to operate over the supply range of 1.6V to 3.6V and uses a micropower sleep function to give an average power consumption of 7.7uW typical at 1.8V.

Based on chopper stabilized architecture and a ESD rating of 8kV on the supply and output pins, the AH1892 provides a reliable and robust solution over the whole operating range.

To help achieve the smallest solution, the AH1892 has internal push-pull output structure and provides a simple sensitivity selection pin with no additional components required. It is available in the small low profile U-WLB0707-4 (CSP 0.71mm x 0.71xmm) and standard small leaded SOT553 packages.



### The Diodes Advantage

The AH1892 provides an ultra small, simple and flexible contactless switch solution for multiple applications.

#### § Programmable Omnipolar Hall switch with a push-pull output

- Two programmable switch points provides simplicity and flexibility
- Tight tolerance magnetic bands with a typical of 35G or 60G
- Operates with either a North or South pole
- No external pull-up required – Minimal external component

#### § Designed for portable and battery powered equipment

- Supply voltage designed for battery applications (1.6V to 3.6V)
- Micropower operation with an average supply current of 4.3uA at 1.8V

#### § High performance and reliability

- Chopper stabilized design to provide minimal switch point drift and superior temperature stability
- High ESD rating (Human Body Model) of 8kV on supply and output pins and 6kV on logic BSEL pin
- Operating temperature range -40°C to 85°C

#### § The smallest solution

- Small low profile CSP is only 0.71mm x 0.71mm and is 17 times smaller than SOT23.
- SOT553 miniature leaded package is also available

### Applications

- |                                       |                          |
|---------------------------------------|--------------------------|
| § Cell phone flip and slide detect    | § Camcorders             |
| § Holster and docking stations detect | § Handheld game consoles |
| § Portable and tablet PC              | § Home appliances        |
|                                       | § Contactless switches   |

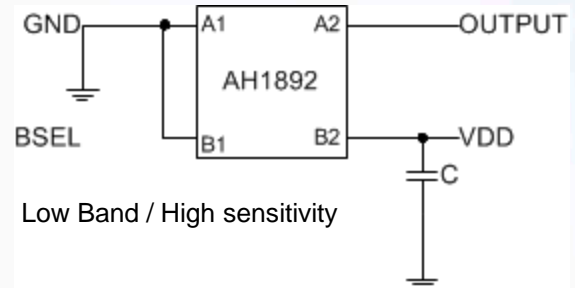
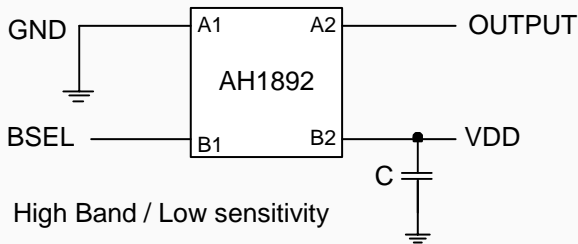


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### Typical Applications Circuits

#### CSP package



### Electrical Characteristics

Part Number	Output	Type	Prog.	Operating Voltage (V)	Average Supply Current (uA)	Chopper Stabilized	Max. Operating Point (Bop) (Gauss)	Min Release Point (Brp) (Gauss)	Temp Range (°C)	Package Outlines
AH1892-CD4-7	Single	Push-Pull	Yes	1.6 to 3.6	4.3	Yes	LB: ±55 HB: ±80	LB: ±12 HB: ±35	-40 to 85	U-WLB0707-4
AH1892-Z-7										SOT553

### Ordering Information

Device	Packaging <sup>(1)</sup>	Part mark ID	Reel size	Tape width	Quantity
AH1892-CD4-7	U-WLB0707-4	B2	7"	8mm	3000
AH1892-Z-7	SOT553	B2	7"	8mm	3000

Notes: 1. "Green" mold compound with Lead Free Finish/RoHS Compliant packages.  
EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. No purposely added lead. Halogen and Antimony free. Please visit our website at [http://www.diodes.com/products/lead\\_free.html](http://www.diodes.com/products/lead_free.html).



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### Product Portfolio – Omnipolar Hall Effect Switches

Part Number	Output	Type	Operating Voltage (V)	Average Supply Current (uA)	Operating Point (Bop) (Gauss)	Release Point (Brp) (Gauss)	Typical Hysteresis (Gauss)	Temp Range (°C)	Package Outlines
AH180N	Single	Open Drain	2.5 to 5.5V	8	±50	±10	10	-40 to 85	SC59 SOT553 TSOT23
AH180	Single	Open Drain	2.5 to 5.5V	8	±60	±10	15	-40 to 85	DFN2020-3 DFN2020-6 SC59, SIP-3
AH1801	Single	Open Drain	2.5 to 5.5V	8	±60	±10	10	-40 to 85	DFN2020-3 DFN2020-6 SC59
AH1802	Single	Open Drain	2.5 to 5.5V	8	±40	±10	8	-40 to 85	DFN2020-3 DFN2020-6 SC59
AH1803	Single	Open Drain	2.4 to 5.5V	8	±40	±10	10	-40 to 85	DFN2020-6 SC59
AH1822	Single	Open Drain	2.4 to 5.5V	8	±55	±10	8	-40 to 85	DFN1015-6 DFN3020-6
AH1804	Single	Push /Pull	2.5 to 3.6V	12	±60	±15	8	-40 to 85	DFN1216-4 SC59
AH1806 <sup>(1)</sup>	Single	Open Drain	2.5 to 3.6V	8	±45	±15	10	-40 to 85	SC59 SOT553
AH1808 <sup>(1)</sup>	Single	Open Drain	2.5 to 3.6V	8	±60	±15	10	-40 to 85	SC59 SOT553
AH1883	Single	Push /Pull	1.65 to 3.3V	7	±55	±6	8	-40 to 85	SOT553 U-DFN2020-3
AH1884	Dual	Push /Pull	1.65 to 3.3V	7	±55	±15	8	-40 to 85	SOT553
AH1885	Dual	Push /Pull	1.65 to 3.3V	7	±59	±15	8	-40 to 85	SOT553
AH1886	Dual	Push /Pull	1.65 to 3.3V	7	±55	±6	8	-40 to 85	SOT553
AH1887	North South	Push /Pull	1.65 to 3.3V	7	±50	±6	15	-40 to 85	SOT553
AH1888	Singl Strnd	Push /Pull	1.65 to 3.3V	7	±79	±35	8	-40 to 85	DFN2020-3 DFN2020R-3 SOT553
	Single Inv.								
	Dual								
AH1891	Dual	Push /Pull	1.8 to 3.3V	7	+60/-50	±12	15	-40 to 85	U-WLB0808-4 (CSP package) SOT553
AH1892	Single. Prog	Push/Pull	1.6 to 3.6V	4.3	LB: ±55 HB: ±80	LB: ±12 HB: ±35	10	-40 to 85	U-WLB0707-4 (CSP package) SOT553

(1) Advance information: Please contact Diodes for product update and availability

### To find out more information:

Omnipolar Portfolio page:

<http://www.diodes.com/products/catalog/list.php?parent-id=113>

Datasheet:

<http://www.diodes.com/datasheets/AH1892.pdf>