



New Product Announcement

AH1899A/B/S

Ultra-Low-Voltage, High-Sensitivity, Micropower, Omnipolar, Hall-Effect Switches Designed for Portable and Battery-Powered Equipment

The AH1899A/B/S devices are ultra-low-voltage, high-sensitivity, micropower, omnipolar, Hall-effect switch ICs with internal pull-up and pull-down capability.

The devices operate over a 1.1V to 2.0V supply voltage range and use a hibernating clocking system to minimize current consumption.

Designed for portable and battery-powered equipment, the AH1899A/AH1899B's average supply current is only 0.95 μ A at 1.2V. The AH1899S has a higher sensing frequency, with an average supply current of 5.1 μ A at 1.2V, compared to the AH1899A/AH1899B's 0.95 μ A at the same voltage.

Using advanced chopper-stabilized design, these devices provide superior temperature stability and minimal switching point drift over the supply voltage range.

All variants have a high 8kV human body model (HBM) ESD withstand capability, increasing the robustness of portable equipment.

The AH1899A/B/S devices are available in a small, low-profile X2-DFN1010-4 (Type B) package to minimize PCB space.

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The DIODES Advantage

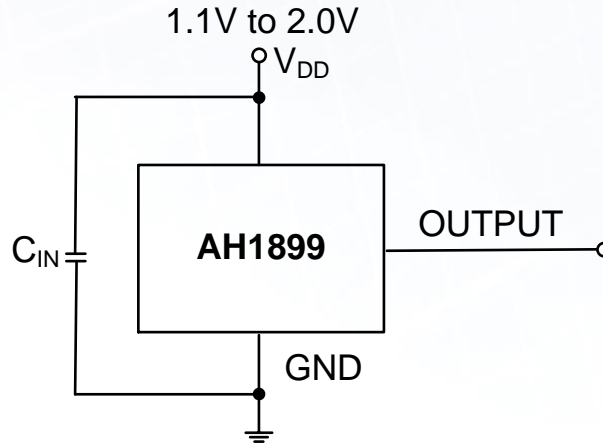
The AH1899A/B/S devices provide ultra-low-voltage, power-saving, reliable, Hall-effect proximity detection for battery-powered applications.

- **Omnipolar Options with Different Operate Points: Ultra-High Sensitivity 18G AH1899A and 30G AH1899B/S**
Operates from either a North or South pole, enabling greater design flexibility
- **Push-Pull Output Stage**
Eliminates need for external pull-up, minimizing external components
- **Ultra-Low 1.1V to 2.0V Supply Voltage Range**
Decreases power dissipation, extending operating times
- **Ultra-Low 0.95 μ A Average Supply Current (AH1899A/B)**
Extends operating times in battery-powered equipment
- **High ESD Voltage Rating of 8kV (HBM)**
Improves robustness and reliability

Applications

- Smart covers/dock detection
- Wireless earbuds
- Contactless switches
- Smoke detectors
- Handheld gaming consoles
- AR glasses

Typical Application



Product Portfolio

Part Number	Output Type	Supply Voltage Range	Supply Current (Typ)	Duty Cycle	HBM-ESD	Operating Point (B _{OP}) (Typ)	Release Point (B _{RP}) (Typ)	Temp. Range	Package
		V	μA	%	kV	Gauss	Gauss	°C	
AH1899A	Push-Pull	1.1 to 2.0	0.95	0.1	8	±18	±12	-40 to +85	X2-DFN1010-4 (Type B)
AH1899B	Push-Pull	1.1 to 2.0	0.95	0.1	8	±30	±20	-40 to +85	X2-DFN1010-4 (Type B)
AH1899S	Push-Pull	1.1 to 2.0	5.1	0.8	8	±30	±20	-40 to +85	X2-DFN1010-4 (Type B)

Ordering Information

Orderable Part Number	Compliance (Only Automotive Supports PPAP)	Packaging	Moisture Sensitivity	Packing	
				Quantity	Carrier
AH1899A-FS4-7	Standard	X2-DFN1010-4 (Type B)	MSL-1	5,000	7" Tape & Reel
AH1899B-FS4-7	Standard	X2-DFN1010-4 (Type B)	MSL-1	5,000	7" Tape & Reel
AH1899S-FS4-7	Standard	X2-DFN1010-4 (Type B)	MSL-1	5,000	7" Tape & Reel