

## HIGH SENSIVITY MICROPOWER OMNIPOLAR HALL-EFFECT SWITCH

### Description

The AH1810 is a high sensitivity micropower Omnipolar Hall effect switch IC with internal pull up and pull down capability. Designed for portable and battery powered equipment such as cellular phones and portable PCs, the average supply current is only 6 $\mu$ A at 3V. To support portable equipment the AH1810 can operate over the supply range of 2.3V to 3.6V and uses a hibernating clocking system to minimize the power consumption.

The output is activated with either a North or South pole of sufficient magnetic field strength. When the magnetic flux density (B) perpendicular to the package is larger than operate point (Bop), the output will be turned on (pulled low). The output is turned off when B becomes lower than the release point (Brp). The output will remain off when there is no magnetic field.

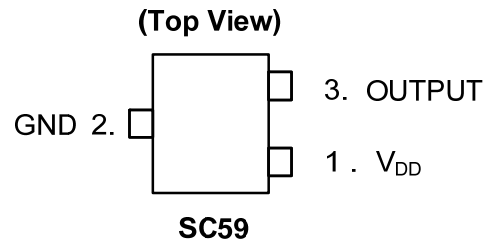
### Features

- Omnipolar Operation (North or South Pole)
- Supply Voltage of 2.3V to 3.6V
- High Sensitivity
- Micropower Operation
- Chopper Stabilized Design Provides:
  - Superior Temperature Stability
  - Extremely Low Switch-Point Drift
  - Enhanced Immunity to Stress
- No External Pull up Resistor Required
- Good RF Noise Immunity
- -40°C to +85°C Operating Temperature
- Industry Standard SC59 Package
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

Notes:

1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
2. See [http://www.diodes.com/quality/lead\\_free.html](http://www.diodes.com/quality/lead_free.html) for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

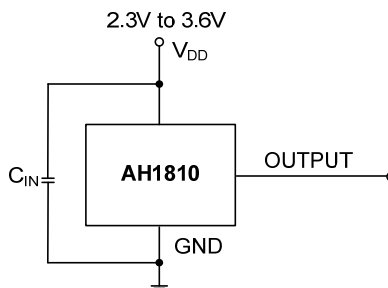
### Pin Assignments



### Applications

- Cover or Display Switch in Portable PCs
- Open and Close Detect for Cellular Phones
- Holster Detect for Cellular Phones and Tablet PCs
- Digital Still and Video Cameras
- Contact-Less Switches

### Typical Applications Circuit (Note 4)



Note: 4.  $C_{IN}$  is for power stabilization and to strengthen the noise immunity, the recommended capacitance is 10nF to 100nF.

To Request This Datasheet  
In Its Entirety Please Email

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