

**High Sensitivity Micropower Omnipolar Hall-Effect Switch****AH9248****Description**

The AH9248 is an ultra-sensitive Hall-effect switch with digital latched output, mainly designed for battery-operation, hand-held equipments.

Special CMOS process is used for low-voltage and low-power requirement. A chopper stabilized amplifier improves stability of magnetic switch points. A sleep-awake logic controls the IC in sleep time or awake time. This function will reduce the average operating current of the IC. During the awake time, the output is changed with the magnetic flux density. During the sleep time, the output is latched in its previous state and the current consumption will reduce to some  $\mu\text{A}$ .

The IC switching behaviour is omnipolar, either north or south pole sufficient strength will turn the output on. If the magnetic flux density is larger than operating point ( $B_{OP}$ ), the output will be turned on; if it is less than releasing point ( $B_{RP}$ ), the output will be turned off.

The AH9248 is available in TO-92S-3, SOT-23-3 and DFN-2 $\times$ 2-3 packages which are optimized for most applications.

**Features**

- Micropower Operation
- 2.5 to 5.5V Power Supply
- Switching for Both Poles of a Magnet (Omnipolar)
- Stabilized Chopper
- Superior Temperature Stability
- Digital Output Signal
- Built-in Pull-up Resistor (AH9249)

**Applications**

- Cover Switch in Notebook PC/PDA
- Handheld Wireless Application Awake Switch
- Magnet Switch in Low Duty Cycle Applications

**Parametric Table**

Supply Voltage (V)	2.5 to 5.5
Supply Current (Average) ( $\mu\text{A}$ )	10
Output Saturation Voltage ( $V_{CC}=3\text{V}$ , $I_{OUT}=1\text{mA}$ ) (V) (Max)	0.4
Operating Point (Gauss)	$\pm 30$
Releasing Point (Gauss)	$\pm 20$
Hysteresis (Gauss)	10

**Benefits**

- Low Average Current ( $8\mu\text{A}$  Typ.)
- High Sensitivity
- High Stability of the Magnetic Switching Points
- Operation Low to 2.5V
- Cost-effect Solution

**Additional Available Materials**

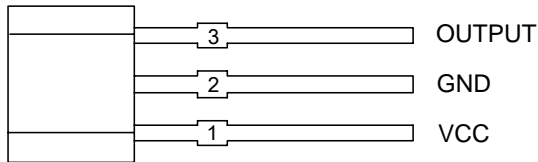
- Samples
- Preliminary Datasheet
- Reliability Report
- ESD Report

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**AH9248**

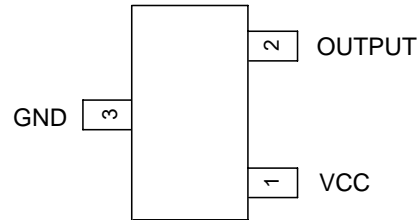
**Pin Configuration**

**TO-92S-3**



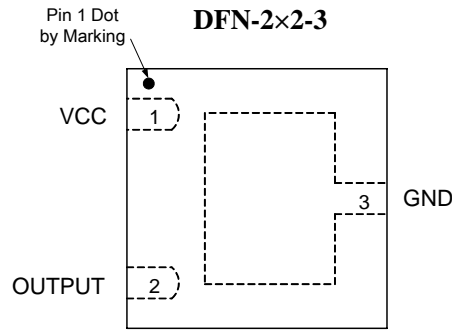
(Front View)

**SOT-23-3**



(Top View)

**DFN-2x2-3**



(Top View)

**Ordering Information Example**

Package	Temperature Range	Part Number	Marking ID	Packing Type
TO-92S-3	-40 to 85°C	AH9248Z3-G1	9248	Bulk
		AH9248Z3TR-G1	9248	Ammo
SOT-23-3		AH9248NTR-G1	GL1	Tape & Reel
DFN-2x2-3		AH9248DNTR-G1	JA	Tape & Reel

Detailed information please refer to the relevant datasheet.

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