



## HIGH VOLTAGE HALL EFFECT LATCH

AH278

### Description

The AH278 is an integrated Hall sensor with output driver designed for electronic commutation of brushless DC motor applications. The device includes an on-chip Hall sensor for magnetic sensing, an amplifier that amplifies the Hall voltage, a Schmitt trigger to provide switching hysteresis for noise rejection and two complementary open-collector drivers for sinking large load current. It also includes an internal band-gap regulator which is used to provide bias voltage for internal circuits and allows a wide operating supply voltage ranges.

Placing the device in a variable magnetic field, if the magnetic flux density is larger than threshold  $B_{OP}$ , the pin DO will be turned low (on) and pin DOB will be turned high (off). This output state is held until the magnetic flux density reverses and falls below  $B_{RP}$ , then causes DO to be turned high (off) and DOB turned low (on).

### Features

- On-Chip Hall Sensor
- 4V to 30V Supply Voltage
- 500mA (avg) Output Sink Current
- Build in Protection Diode for Reverse Power Connecting
- $-20^{\circ}\text{C}$  to  $85^{\circ}\text{C}$  Operating Temperature
- Low Profile TO-94 (SIP-4L) Package
- Build in Over Temperature Protection Function
- ESD Rating: 300V(Machine Model)

### Applications

- 12V/24V Dual-Coil Brushless DC Motor/Fan
- Power Supply and Switchboard
- Communications Facilities
- Industrial Equipment

### Parametric Table

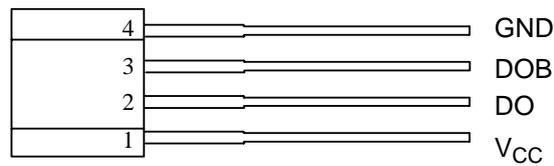
Supply Current (mA)	12.5
Output Saturation Voltage (24V, 300mA) (V)	0.25
Hysteresis (Gauss)	80
Output Leakage Current ( $\mu\text{A}$ )	0.1
Package	TO-94

### Benefits

- Good High Temperature Performance
- With Over Temperature Protection (OTP) function
- Very Low Saturation Voltage
- Complementary Output
- Optimization Solution: Higher Current at High Voltage(24V) and Temperature ( $85^{\circ}\text{C}$ )

### Additional Available Materials

- Samples
- Data Sheet
- Reliability Report
- ESD Report

**TWO PHASE HALL EFFECT LATCH WITH FG OUTPUT****AH278****Pin Configuration**Z4 Package  
(TO-94)**Ordering Information Example**

Package	Temperature Range	Part Number	Marking ID	Packing Type
TO-94	-20 to 85 °C	AH278Z4-AE1	AH278Z4-E1	Bulk
		AH278Z4-BE1	AH278Z4-E1	Bulk

Detailed information please refer to the relevant datasheet.

**Sales Office:****USA**30920 Huntwood Ave. Hayward, CA 94544,  
USA  
Tel : +1-510-324-2988  
Fax : +1-510-324-2788**Shanghai**8F, B Zone, 900 Yi Shan Road, Shanghai 200233,  
China  
Tel : 86-21-6495 9539  
Fax : 86-21-6485 9673**Taiwan**4F, 298-1 Rui Guang Road, Nei-Hu District, Taipei,  
Taiwan  
Tel : 886-2-2656-2808  
Fax : 886-2-2656-2806**Shenzhen**Room E, 5F, Noble Center, No.1006, 3rd Fuzhong Road, Futian  
District, Shenzhen 518026, China  
Tel : 86-755-8826 7951  
Fax : 86-755-8826 7865