

CYD8801 Dual Channel Sensitive Hall Effect Switch

The CYD8801 dual-channel Hall Effect switch is monolithic integrated circuits with tighter magnetic specifications, designed to operate continuously over extended temperatures upto +150°, and are more stable with both temperature and supply voltage changes. The negative compensation slope is optimized to match the negative temperature coefficient of low cost magnets. Band gap regulation provides extremely stable operation over 3.8 to 30 VDC supply voltage range. CYD8801 is capable of continuous 40 mA sinking output, and may be cycled as high as 50 mA maximum.

Features

- Dual channel output
- 3.8V to 30V supply voltage
- High output current capability -50 mA absolute maximum
- Quad-Hall design virtually eliminates mechanical stress effects
- Temperature compensated magnetic
- Digital current sinking output
- SIP-4 package are available
- Operate/release points symmetrical around zero gauss
- RoHs compliant

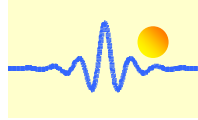
Applications

- Speed and RPM sensing
- Motor and fan control
- Flow-rate sensing
- Brushless dc motor commutation
- Auto-motive transmission position
- Robotics control

Electrical and magnetic Specifications

at Ta=-40°C to 150°C , Vcc=3.8V to 30V (unless otherwise specified)

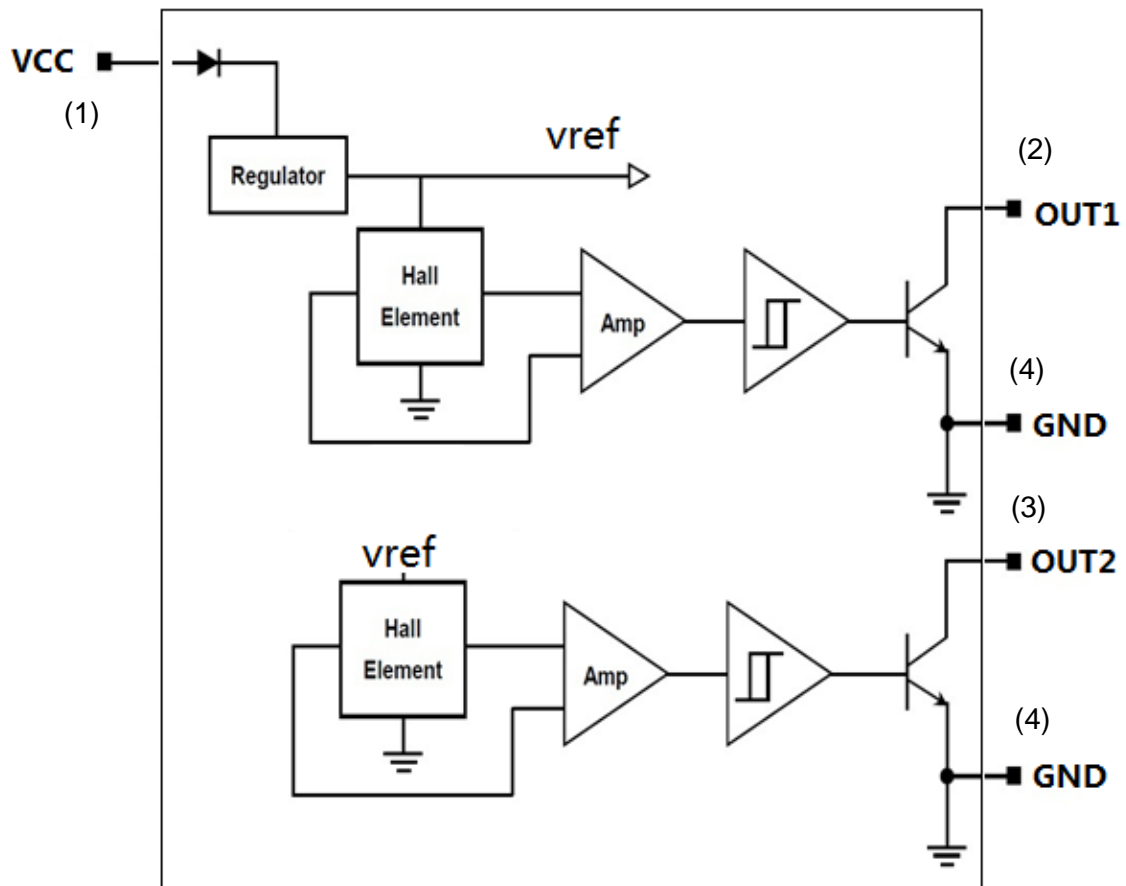
Symbol	Parameter	Test Condition	Min	Typ	Max	units
Vcc	Supply Voltage	Operating	3.8	--	30	V
Icc	Supply Current	B< Brp	--	5	10	mA
Vsat	Saturation Voltage	Iout=20mA, B>Bop	--	--	0.4	V
Tr	Rise Time	RI=1K ohm, CI=20pF	--	--	1.5	uS
Tf	Fall Time	RI=1K ohm, CI=20pF	--	--	1.5	uS
Fsw	Switching Frequency		--	--	100	Khz
Rth	Package Therna Resistance		--	230	--	°C/W
Bop	Operation Point		10	50	80	Gauss
Brp	Release Point		-80	-50	-10	Gauss
Bh	Hysteresis Window	Bop-Brp	--	100	--	Gauss



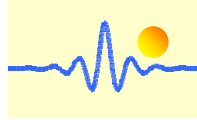
Absolute Maximum Ratings

Supply Voltage V_{CC}	40V
Reverse supply voltage $-V_{CC}$	-40V
Output voltage, V_{OUT}	40V
Output Sink Current, I_{OUT}	50mA
Operating Temperature Range, T_A	-40°C ~ +150°C
Storage Temperature Range, T_S	-50°C ~ +150°C
Magnetic flux B	No limited
Maximum Junction Temperature, T_J	165°C

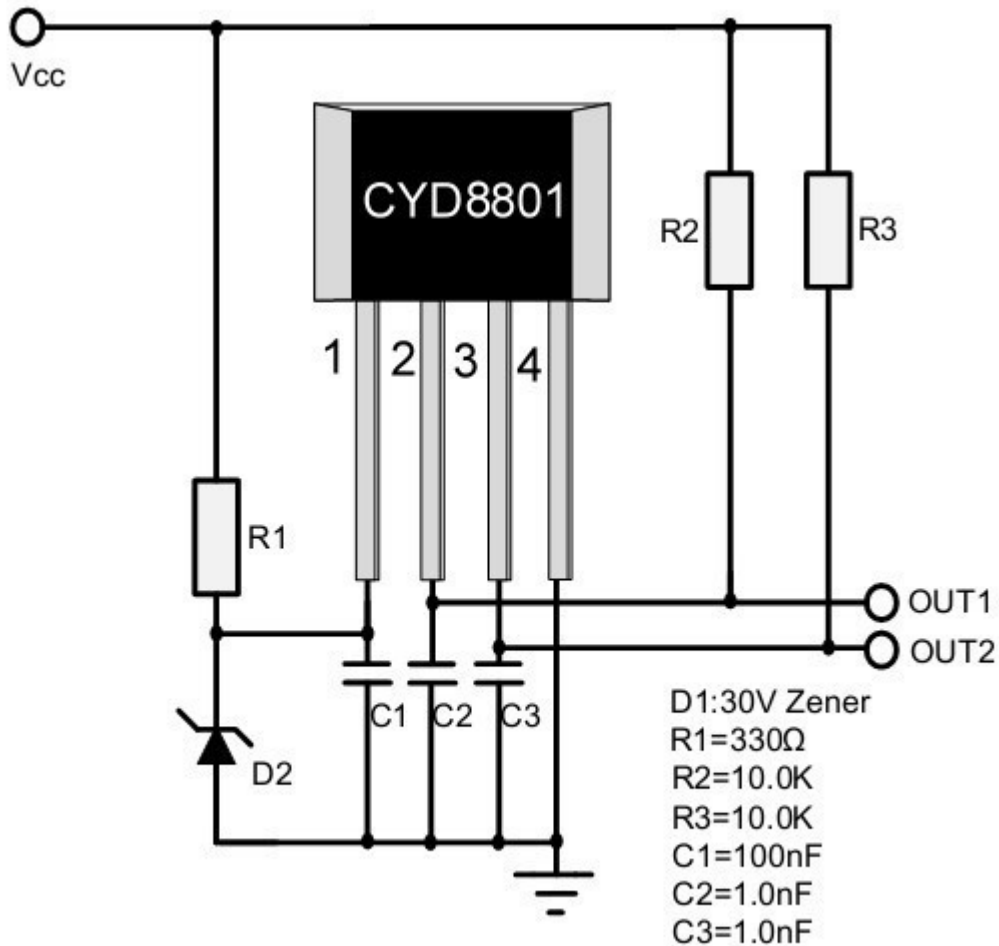
Functional Diagram



Functional Block Diagram

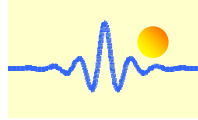


Typical Connection



Pin Arrangement

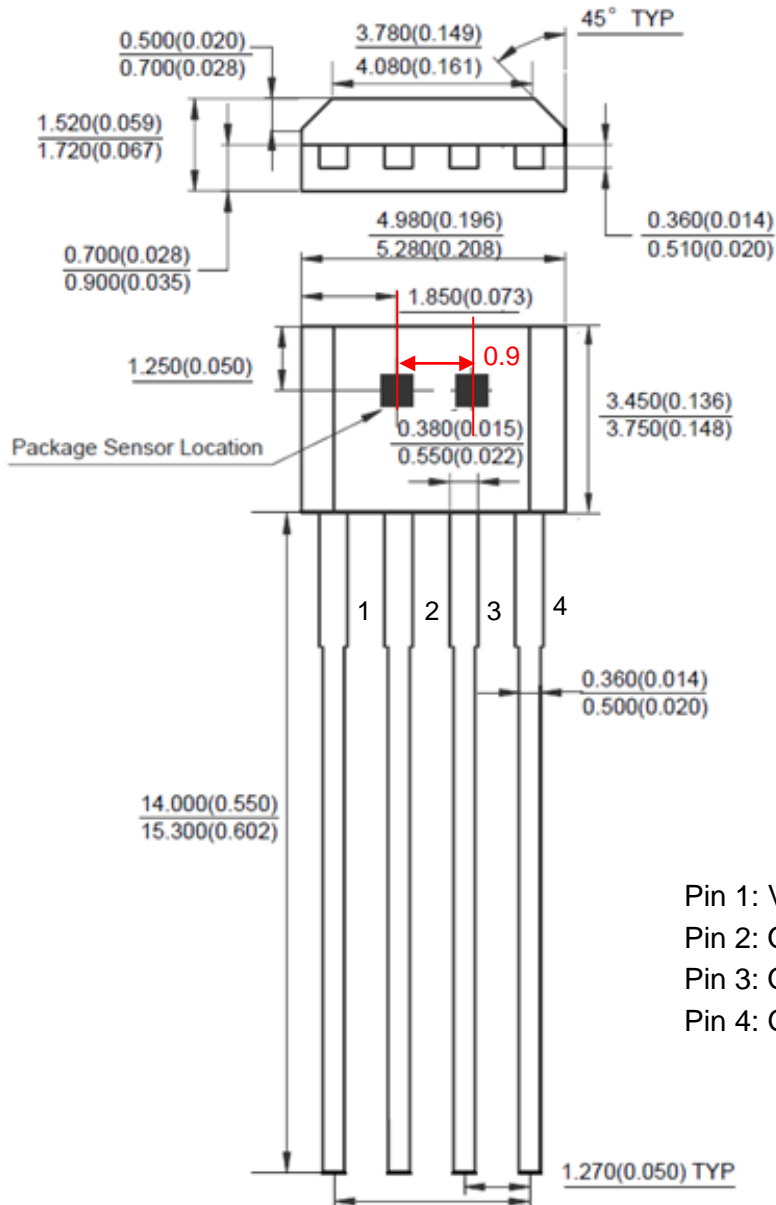
Name	Number	Description
Vcc	1	Power
OUT1	2	Channel 1 output
OUT2	3	Channel 2 output
GND	4	Ground



Geometric Dimensions

TO-94

Unit: mm(inch)



- Pin 1: Vcc (Voltage Supply)
- Pin 2: OUT1 (Channel 1 output)
- Pin 3: OUT2 (Channel 2 output)
- Pin 4: GND (Ground)