



General Description

The OCH143 is an integrated Hall Effect latched sensor designed for electronic commutation of brush-less DC motor applications. The device includes an on-chip Hall voltage generator for magnetic sensing, a comparator that amplifies the Hall voltage, and a Schmitt to provide switching hysteresis for noise rejection, and open-collector output. An internal bandgap regulator is used to provide temperature compensated supply voltage for internal circuits and allows a wide operating supply range.

A north pole of sufficient strength will turn the output ON. In the absence of a magnetic field, the output is OFF.

Features

- Wide operating voltage range: 3.8V~30V
- Wide operating temperature range: -40°C ~+150°C
- Reverse polarity protection
- Maximum output sink current 25mA
- Package: SIP-3L

Applications

- Rotor Position Sensing
- Brush-less DC Fan
- Brush-less DC Motor
- Speed measurement
- Revolution counting

Pin Configuration

(Top View)



Pin Name	Pin No.	P/O	Pin Function
VCC	1	P	IC Power Supply
GND	2	P	IC Ground
Output	3	O	It is low state during the S magnetic field

Typical Application Circuit

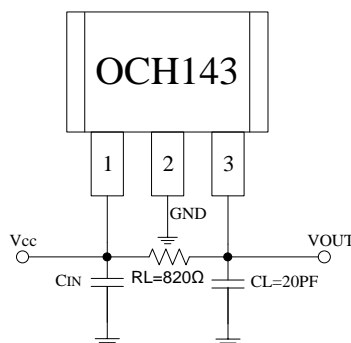


Figure 1, application circuit Of OCH143

Note: C_{IN} is for power stabilization and to strengthen the noise immunity, the recommended capacitance is 0.1~1uF. If the V_{CC} power supply is clean, the C_{IN} can be cancelled.



■ Ordering Information

Part Number	Package Type	Packing Qty	B _{OP} (Gauss)	B _{RP} (Gauss)	Temperature	Eco Plan	Lead
OCH143AME	SIP-3L	1000pcs/Bag	+45 (Typ.)	-45(Typ.)	-40~ +150°C	ROHS	Cu

■ Block Diagram

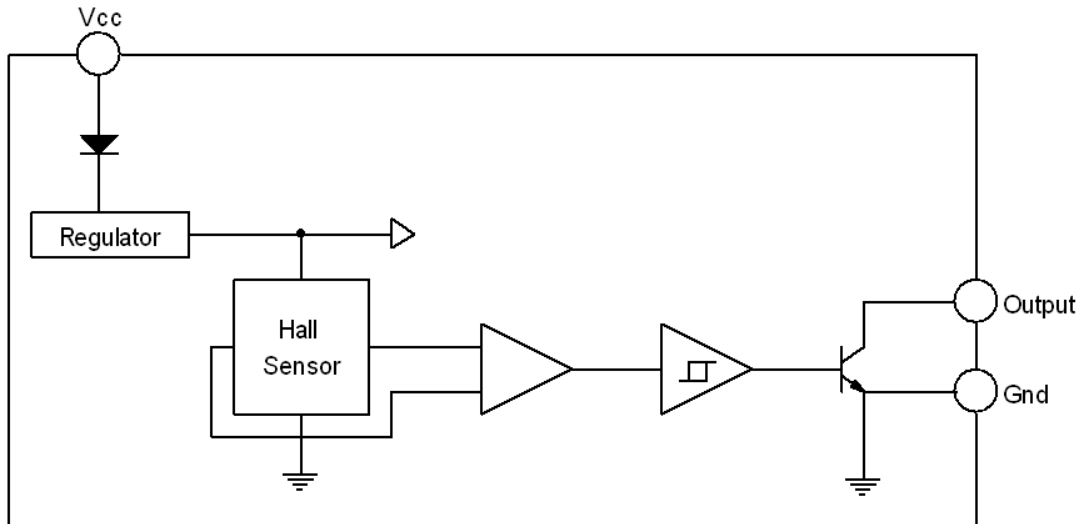


Figure 2, Block Diagram of OCH143

■ Absolute Maximum Ratings

Parameter	Symbol	Rating	Unit
V _{CC} Pin Voltage	V _{CC}	40	V
Output OFF Voltage, V _{CE}	V _{OUT}	40	V
Output Maximum Sink Current (AVE)	I _{SINK}	50	mA
Power Dissipation (SIP-3L)	P _D	400	mW
Operating Temperature Range	T _{OP}	-40 to +150	°C
Storage Temperature Range	T _S	-65 to +150	°C
Junction Temperature	T _J	+160	°C
Lead Temperature (Soldering, 10 sec)	T _L	+260	°C
ESD Capability	HBM	8000	V
	MM	800	V

■ Electrical Characteristics (at T_a=25°C, V_{CC}=12V)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V _{CC}	Operating Voltage		3.8	-	30	V
I _{CC}	Supply current	V _{CC} :4.0V~30V, OUT "H"	-	3.3	7	mA
V _{SAT}	Output Saturation Voltage	V _{CC} =12V, OUT "L" , I _{SINK} =25mA	-	-	0.4	V
t _r	Output Rise time	R _L =820Ω, C _L =20pF	-	0.1	0.7	μS
t _f	Output Fall time	R _L =820Ω, C _L =20pF	-	0.265	1	μS