



General Description

OCH1305 is a X-axis Ultra-sensitive(SOT23-3L) and Y-axis Ultra-sensitive(SIP-3L) omnipolar magnetic switch,OCH1305 including TMR sensor, power timing circuit, Chopper Amplifier, Schmidt trigger and CMOS output circuit. OCH1305 internal integrated power compensation and temperature compensation circuit. To ensure that the chip has wide working voltage range, wide working temperature range, 1.5uA current consumption and superior anti-interference characteristics, it has become an ideal choice for many low power and high performance applications.

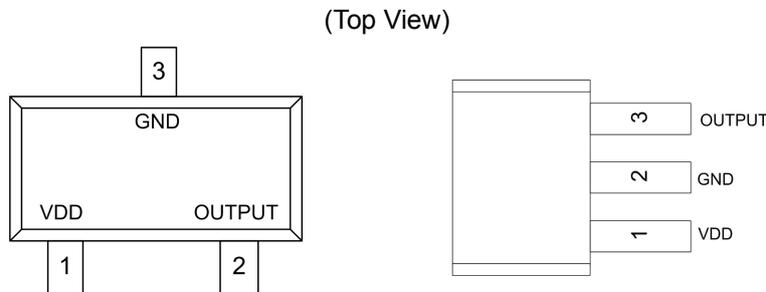
Features

- Micro power 1.5uA
- Ultra-sensitive±14GS
- X-axis Operation with North or South pole(omnipolar)
- Digital output signal
- Operating Voltage Range 2.4V to 5.5V
- Open-Drain Output
- SOT23-3L、SIP3L package

Applications

- Solid State Switch
- Water meter
- Gas meter
- Industrial smoke detectors

Pin Configuration



Pin Name	Pin Number		Description
	SOT23-3L	SIP3L	
VDD	1	1	IC Power Supply
OUTPUT	2	3	It is low state during the S/N pole magnetic field
GND	3	2	IC Ground

Application Circuit

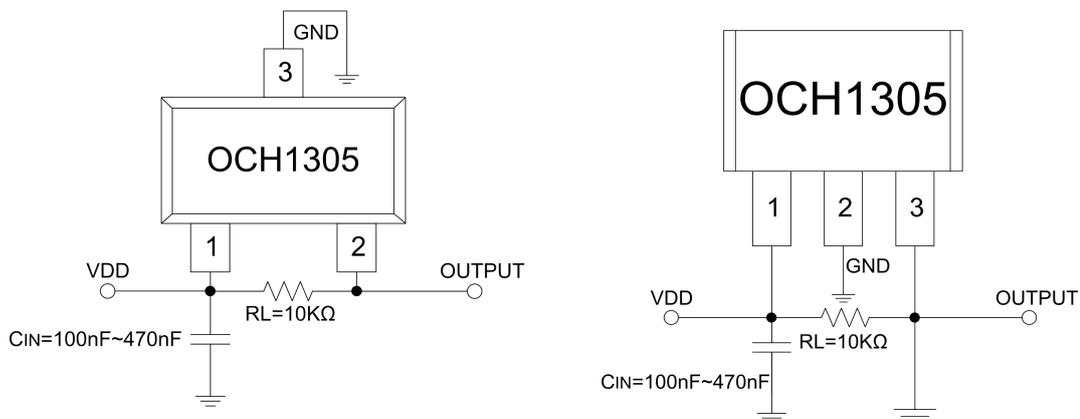


Figure 1, application circuit

Note: C_{IN} is for power stabilization and to strengthen the noise immunity, the recommended capacitance is 100nF~470nF.

■ **Block Diagram**

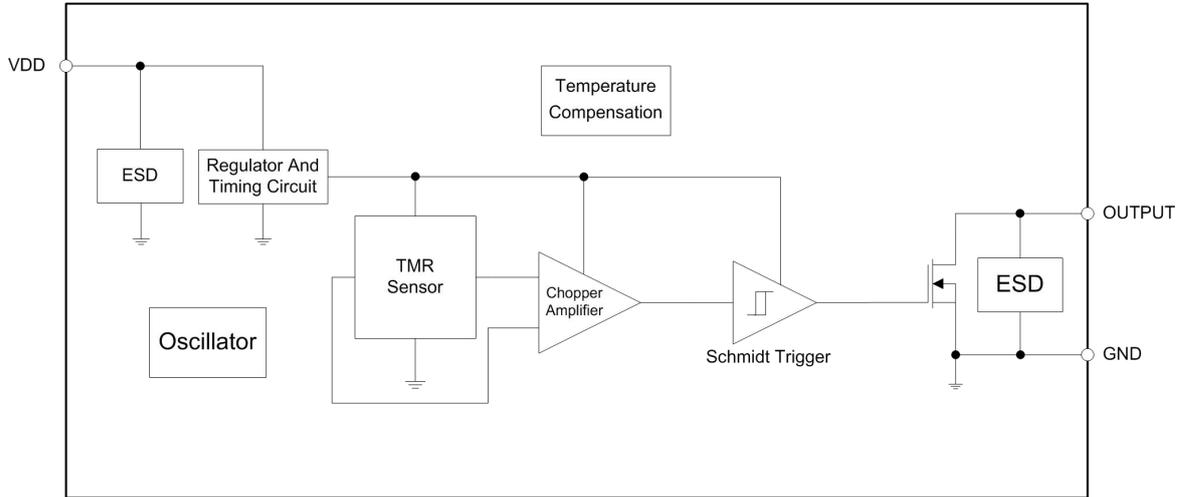


Figure 2, Block Diagram Of OCH1305

■ **Absolute Maximum Ratings** ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Rating	Unit
VDDTo GND	VDD	-0.3 to 7	V
Magnetic Flux Density	B	2800	GS
StorageTemperatureRange	T_S	-65 to +150	$^{\circ}\text{C}$
Operating JunctionTemperatureRange	T_J	-40 to 150	$^{\circ}\text{C}$
Maximum Power Dissipation	P_D	230	mW
Maximum Soldering Temperature(at leads, 10 sec)	T_{LEAD}	260	$^{\circ}\text{C}$

■ **Recommended Operating Conditions** ($T_A=25^{\circ}\text{C}$, unless otherwise noted)

Parameter	Symbol	Conditions	Rating	Unit
Supply Voltage	V_{DD}	Operating	2.4 ~ 5.5	V
Operating TemperatureRange	T_A	Operating	-40 ~ +125	$^{\circ}\text{C}$

■ **Electrical Characteristics**(typical values are at $T_A=25^{\circ}\text{C}$, $V_{DD}=3.3\text{V}$, Unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_{OL}	Output Low level	$I_{OUT}=1\text{mA}$	-0.3	0.006	0.3	V
R_{DSON}	OD Output FET Resistance	Output "L" , $V_{DD}=3.3\text{V}$	-	-	10	Ω
I_{OFF}	Output Leakage Current	$V_{OUT}=3.3\text{V}$, Output off	-	<0.1	1	μA
I_{DD}	Supply Current	Average supply current, $T_A=25^{\circ}\text{C}$, $V_{DD}=3.3\text{V}$	-	1.5	1.8	μA
F	Operating Frequency			1000		Hz