

■ **General Description**

OCH1306 is a X-axis or Y-axis Ultra-sensitive latch switch, OCH1306 including TMR magnetic head, power timing circuit, Chopper Amplifier, Schmidt trigger and CMOS output circuit. OCH1306 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.

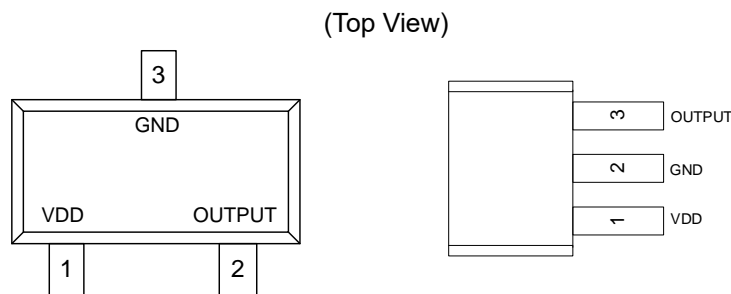
■ **Features**

- Micro power 1.5uA
- Ultra-sensitive 5GS
- X-axis or Y-axis Operation
- Digital output signal
- Operating Voltage Range 2.4V to 5.5V
- COMS Output
- SOT23-3L、SIP3L package

■ **Applications**

- Solid State Switch
- Water meter
- Gas meter

■ **Pin Configuration**



Pin Name	Pin Number		Description
	SOT23-3L	SIP3L	
VDD	1	1	IC Power Supply
OUTPUT	2	3	IC Output
GND	3	2	IC Ground

■ **Application Circuit**

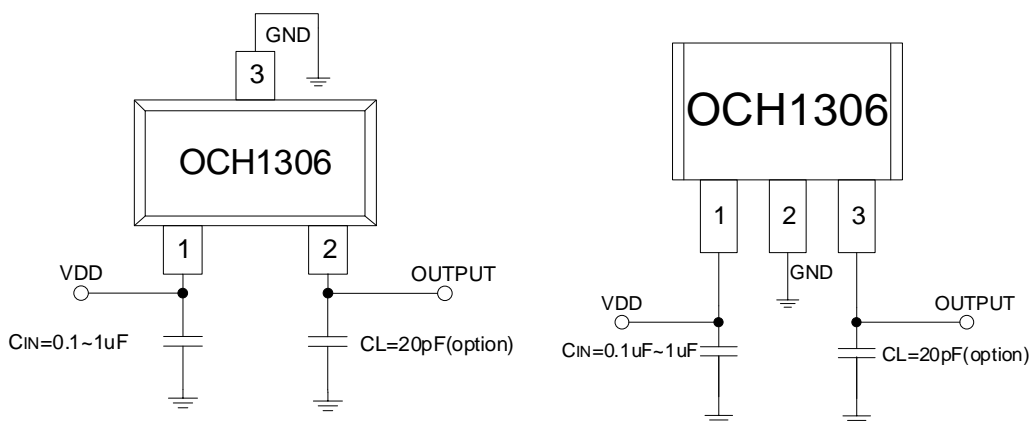


Figure 1, application circuit

Note: C_{IN} is for power stabilization and to strengthen the noise immunity, the recommended capacitance is 100nF~1uF.



Ordering Information

Part Number	Package Type	Packing Qty	B _{OP} (Gauss)	B _{RP} (Gauss)	Temperature	Eco Plan	Lead
OCH1306MF	SIP-3L	1000pcs	5(Typ.)	-5(Typ.)	-40 ~ 125°C	ROHS	Cu
OCH1306WAF	SOT23-3L	3000pcs	5(Typ.)	-5(Typ.)	-40 ~ 125°C	ROHS	Cu

Block Diagram

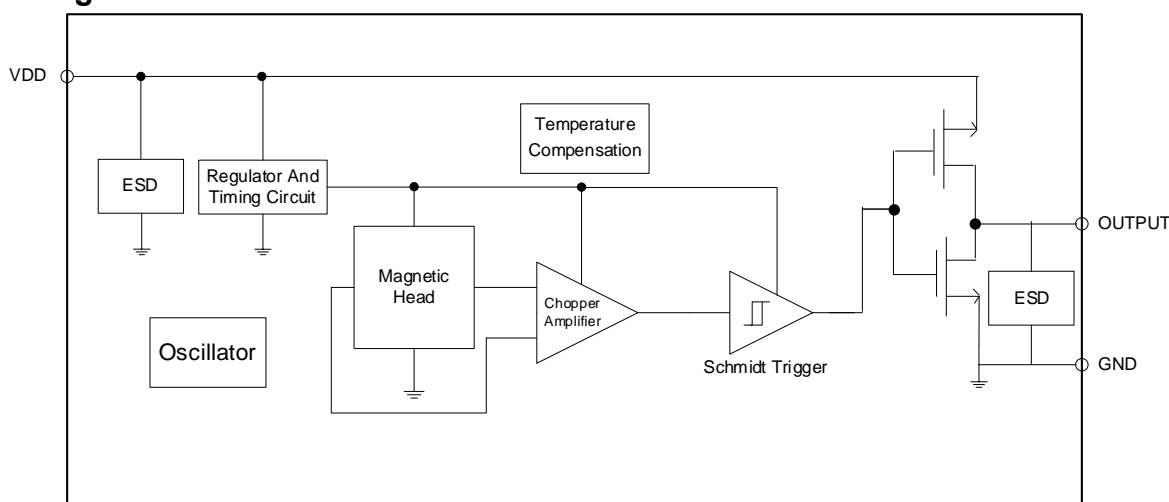


Figure 2, Block Diagram of OCH1306

Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

Parameter	Symbol	Rating	Unit
V _{CC} To GND	V _{CC}	-0.3 to 7	V
Magnetic Flux Density	B	2800	GS
Storage Temperature Range	T _S	-65 to +150	°C
Operating Junction Temperature Range	T _J	-40 to 150	°C
Maximum Power Dissipation	P _D	230	mW
Maximum Soldering Temperature(at leads, 10 sec)	T _{LEAD}	260	°C

Recommended Operating Conditions (T_A=25°C, unless otherwise noted)

Parameter	Symbol	Conditions	Rating	Unit
Supply Voltage	V _{DD}	Operating	2.4 ~ 5.5	V
Operating Temperature Range	T _A	Operating	-40 ~ +125	°C

Electrical Characteristics(typical values are at T_A=25°C, V_{DD}=3V, Unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V _{OH}	Output High level	I _{OUT} =-1mA	V _{DD} -0.3	V _{DD} -0.01	V _{DD}	V
V _{OL}	Output Low level	I _{OUT} =1mA	-	0.01	0.3	V
R _{DSON}	OD Output FET Resistance	Output "L", V _{DD} =3.5V	-	-	10	Ω
I _{DD}	Supply Current	Average supply current, T _A =25°C, V _{DD} = 3V	-	1.5	1.8	μA
F	Operating Frequency			1000		Hz



■ **Magnetic Characteristics** ($T_A=25^{\circ}\text{C}$, unless otherwise noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit
Operate point	B _{OPS}	3	5	10	GS
Release point	B _{RPN}	-10	-5	-3	GS
Hysteresis(B _{OPS} -B _{RPS} or B _{OPN} -B _{RPN})	B _{HYS}		10		GS

■ **Output Vs. Magnetic Pole**

Magnetic Field Pole	Test Conditions	Output Status
South Pole	$B > B_{OP}$	Low
North Pole	$B < B_{RP}$	High

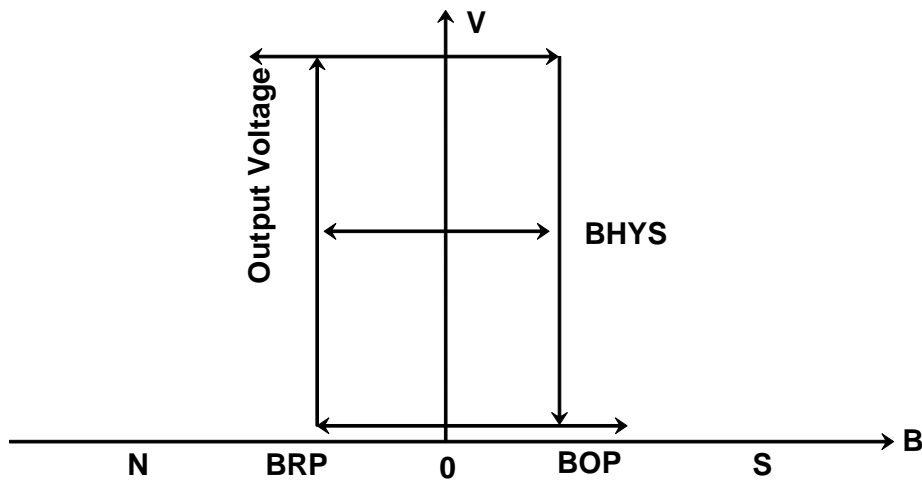
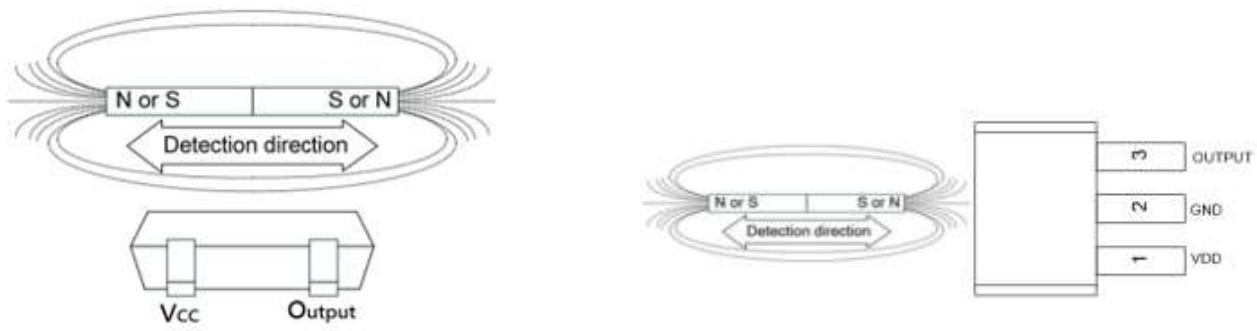


Figure 3, Operational Characteristics



■ Hall Sensor Location

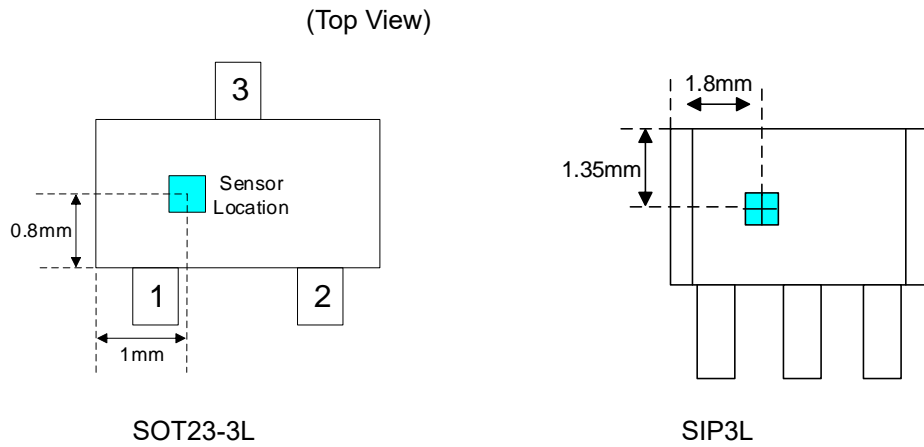


Figure4, Hall Sensor Location

■ Land Pattern (for reference only)

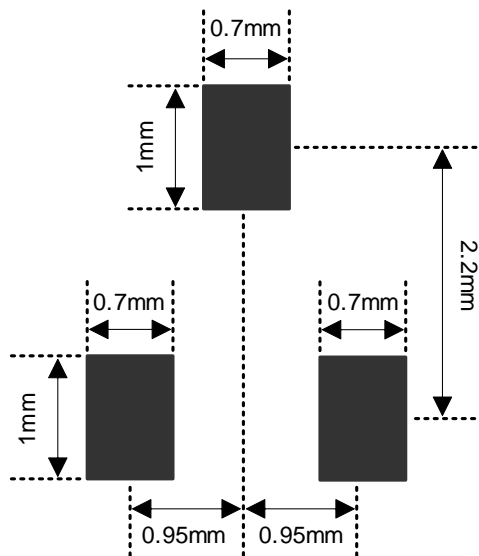
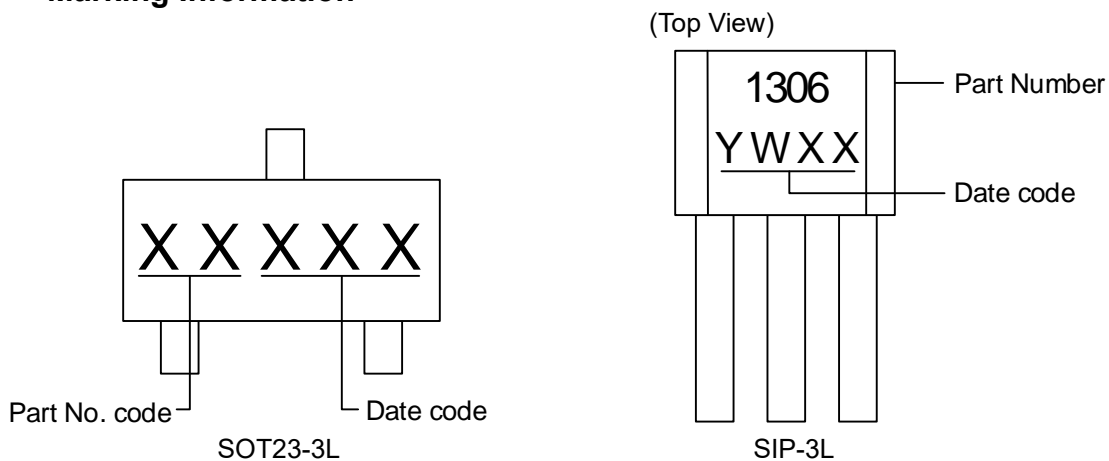


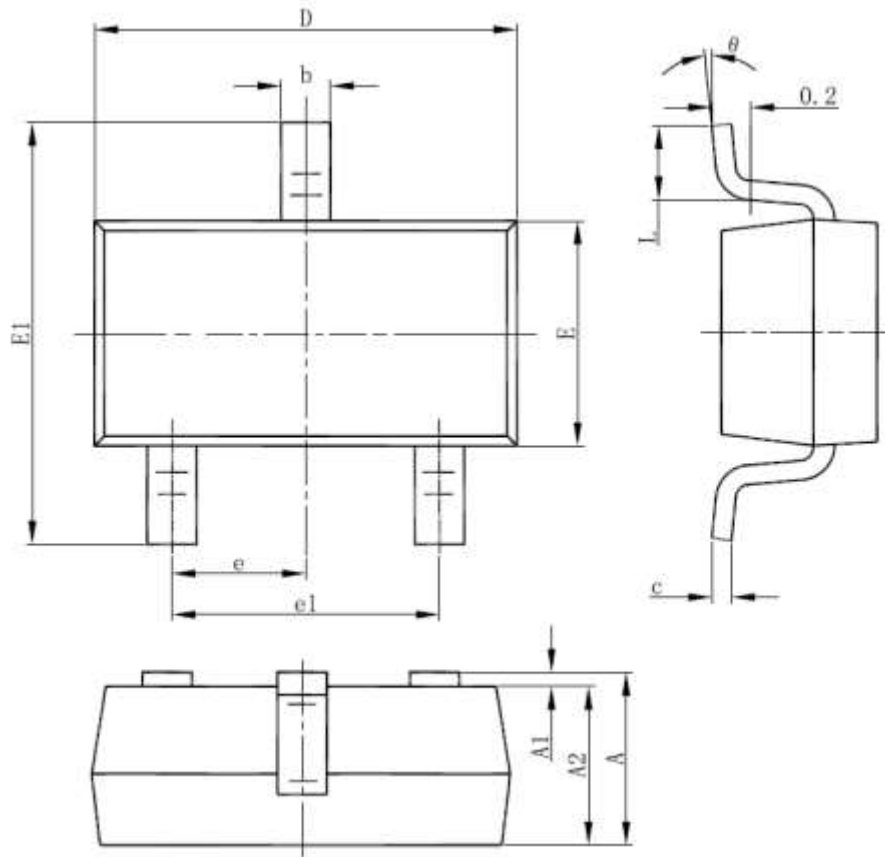
Figure 5, Land Pattern Dimension (SOT23-3L)

■ Marking Information



■ **Package Information**

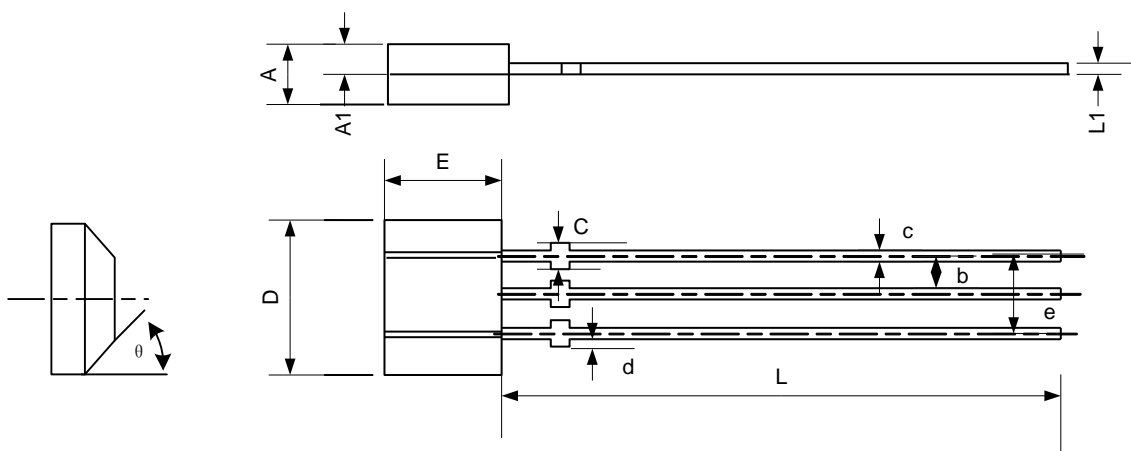
1)SOT23-3L



Symbol	Dimensions In Millimeters			Dimensions In Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.050	1.15	1.250	0.041	0.045	0.049
A1	0.000	0.050	0.100	0.000	0.002	0.004
A2	1.050	1.100	1.150	0.041	0.043	0.045
b	0.300	0.400	0.500	0.012	0.016	0.020
c	0.100	0.150	0.200	0.004	0.006	0.008
D	2.820	2.920	3.020	0.111	0.115	0.119
E	1.500	1.600	1.700	0.059	0.063	0.067
E1	2.650	2.800	2.950	0.104	0.110	0.116
e1	1.800	1.900	2.000	0.071	0.075	0.079
e	0.950 REF			0.037 REF		
L	0.300	0.450	0.600	0.012	0.018	0.024
theta	0°	4°	8°	0°	4°	8°



2) SIP-3L

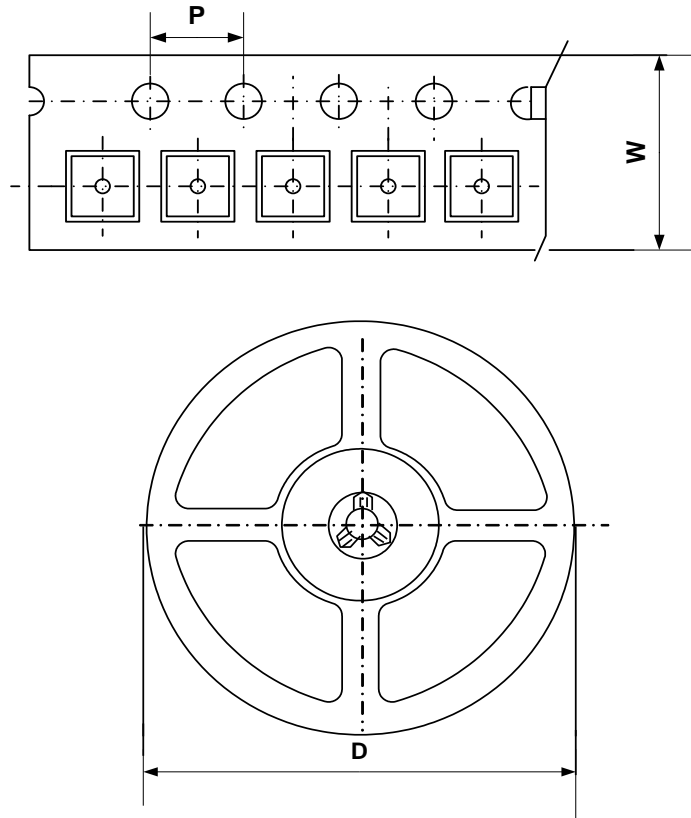


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	TYP	Min	TYP
A	1.245	1.753	0.049	0.069
A1	0.750 REF		0.030 REF	
b	1.270 REF		0.050 REF	
C	0.406	0.550	0.016	0.022
c	0.330	0.495	0.013	0.019
D	4.05 REF		0.159 REF	
d		0.100		0.004
E	2.73	3.27	0.107	0.129
e	2.540 REF		0.100 REF	
L	13.60	15.60	0.535	0.614
L1	0.350	0.410	0.014	0.016
θ		45°		45°



■ Packing Information

1)SOT23-3L



Package Type	Carrier Width (W)	Pitch (P)	Reel Size(D)	Packing Minimum
SOT23-3L	8.0±0.1 mm	4.0±0.1 mm	180±1 mm	3000pcs

Note: Carrier Tape Dimension, Reel Size and Packing Minimum



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