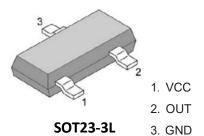


## **Omnipolar Hall-Effect Switch**

#### **Features**

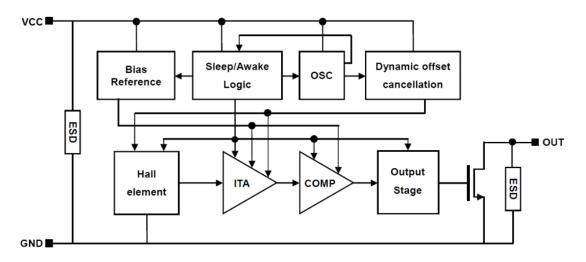
- Micro-power consumption
- 2.0V~4.5V power supply
- Chopper stabilized amplifier stage
- Switching for both polar of a magnet
- High Sensitivity Hall Sensor
- Package: SOT23-3L



## **Applications**

- Solid State Switch
- Home appliances, consumer
- Proximity Switch
- Position Detection

# **Block Diagram**



#### **Order Information**

Part number	Description				
CH217CM	Push-pull Output				
	SOT23-3L package, tape and reel packaging(3000pcs/bag), Rohs/Pb Free				
CH217NM	Open-drain Output				
	SOT23-3L package, tape and reel packaging(3000pcs/bag), Rohs/Pb Free				



#### **Absolute Maximum Ratings**

Symbol	Pa	arameter	Value	Unit
Vcc	Sup	ply Voltage	-0.5~6.0	V
ldd	Sup	ply Current	5	mA
В	Magnet	ic Flux Density	Unlimited	Gauss
Tj	Operating T	emperature Range	-40 to 85	$^{\circ}$
Ts	Storage	e Temperature	-55 to 150	$^{\circ}$ C
PD	Power	3Pin SIP	550	mW
PD	Dissipation	SOT23-3L	230	mW

Note: Stresses greater than those listed under "Absolut Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of these or any other conditions beyond those indicated under "Recommended Operating Conditions" is not implied. "Absolute Maximum Ratings" for extended period may affect device reliability.

## Recommended Operating Conditions (TA=25°C unless otherwise noted)

Parameter	Symbol	Min	Max	Unit
Supply Voltage	Vcc	2.0	4.5	V
Ambient Temperature	Та	-40	85	$^{\circ}$ C

#### Electrical Characteristics (VCC=3.3V Ta=25°C, unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Тур.	Max.	Unit
Icc	Average Supply Current	V <sub>CC</sub> =2.7V,Output Open	-	4	7	uA
Ion	Supply current (opertating mode)	V <sub>CC</sub> =3.3V	-	1.2	-	mA
Ist	Supply current (stand-by mode)	V <sub>CC</sub> =3.3V	-	3	-	uA
V <sub>SAT</sub>	Output Saturation Voltage	Io=2mA,B>Bop	-	-	0.1	V
loL	Output Leakage Current	V <sub>OUT</sub> =5.0V,B <brp< td=""><td>-</td><td>-</td><td>1</td><td>uA</td></brp<>	-	-	1	uA
Tawake	Awake Time	V <sub>CC</sub> =3.3V	-	90	-	us
T <sub>period</sub>	Period	V <sub>CC</sub> =3.3V	-	60	-	ms
ESD	Electro-Static Discharge	HBM		4		KV

#### Magnetic Characteristics (VCC=3.3V Ta=25°C, unless otherwise specified)

Characteristics	Symbol	Min	Тур	Max	Unit
Operating Point	Bops (south pole to part marking side)	-	+25	+45	Gauss
	Bopn (nouth pole to part marking side)	-45	-25	-	Gauss
Releasing Point	Brps (south pole to part marking side)	+10	+17	-	Gauss
	Brpn (nouth pole to part marking side)	-	-18	-10	Gauss
Hysteresis	Bhys= Bopx-Brpx	3	8	18	Gauss



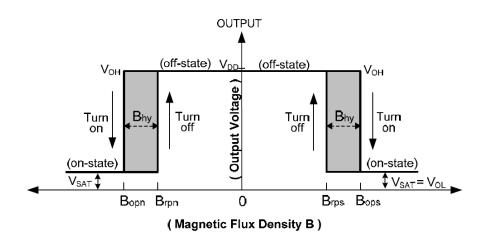
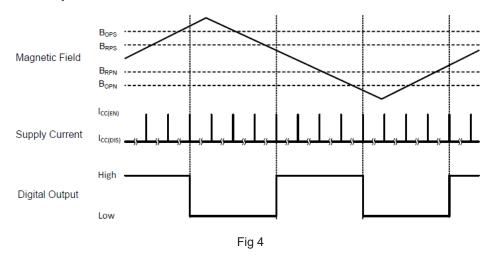
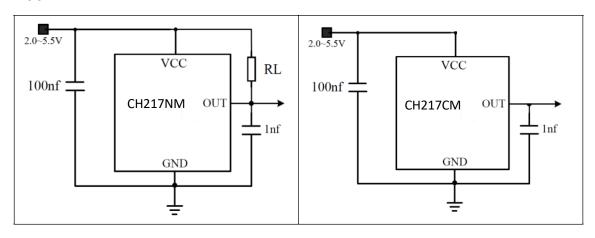


Fig 3

## **Typical Output Waveform**

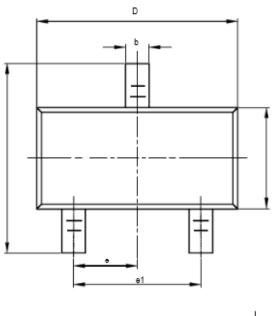


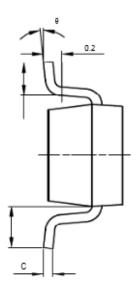
# **Application Circuits**

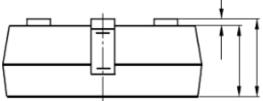




# Package Information SOT23-3L







	Dimensions In Millimeters		Dimensions In Inches		
Symbol	Min	Max	Min	Max	
А	1.050	1.250	0.041	0.049	
A1	0.000	0.100	0.000	0.004	
A2	1.050	1.150	0.041	0.045	
b	0.300	0.400	0.012	0.016	
С	0.100	0.200	0.004	0.008	
D	2.820	3.020	0.111	0.119	
E	1.500	1.700	0.059	0.087	
E1	2.650	2.950	0.104	0.116	
e	0.950TPY 0.037TPY		7TPY		
e1	1.800	2.000	0.071	0.079	
L	0.700REF		0.028REF		
L1	0.300	0.600	0.012	0.024	
9	0°	8°	0°	8°	

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