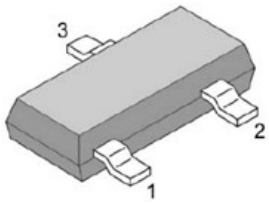
CH217

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



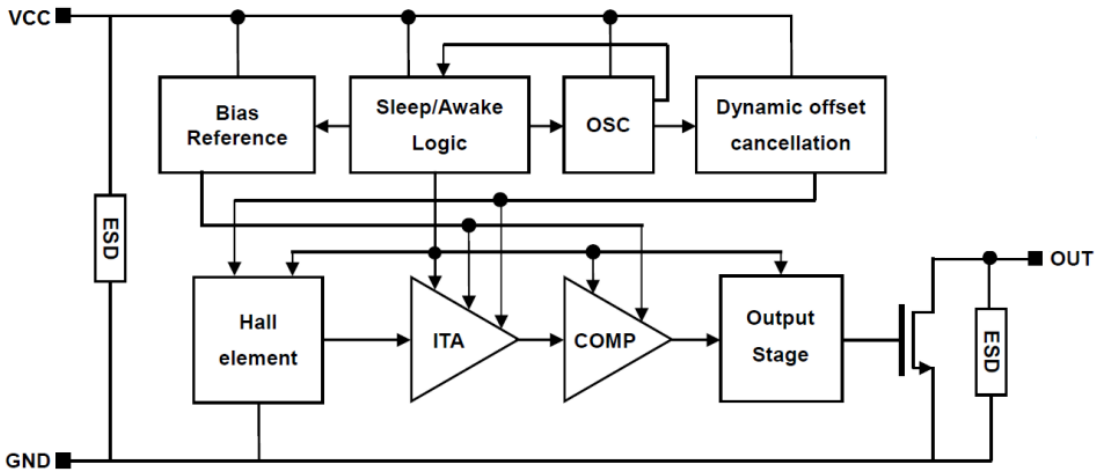
SOT23-3L

1. VCC
2. OUT
3. GND

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	Parameter		Value	Unit
V_{CC}	Supply Voltage		-0.5~6.0	V
Idd	Supply Current		5	mA
B	Magnetic Flux Density		Unlimited	Gauss
Tj	Operating Temperature Range		-40 to 85	℃
Ts	Storage Temperature		-55 to 150	℃
PD	Power Dissipation	3Pin SIP	550	mW
		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℃ unless otherwise noted)

Parameter	Symbol	Min	Max	Unit
Supply Voltage	Vcc	2.0	4.5	V
Ambient Temperature	Ta	-40	85	℃

Electrical Characteristics (VCC=3.3V Ta=25℃, unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CC}	Average Supply Current	V_{CC}=2.7V,Output Open	-	4	7	uA
I_{ON}	Supply current (opertating mode)	V_{CC}=3.3V	-	1.2	-	mA
I_{ST}	Supply current (stand-by mode)	V_{CC}=3.3V	-	3	-	uA
V_{SAT}	Output Saturation Voltage	Io=2mA,B>Bop	-	-	0.1	V
I_{OL}	Output Leakage Current	V_{OUT}=5.0V,B<Brp	-	-	1	uA
T_{awake}	Awake Time	V_{CC}=3.3V	-	90	-	us
T_{period}	Period	V_{CC}=3.3V	-	60	-	ms
ESD	Electro-Static Discharge	HBM		4		KV

Magnetic Characteristics (VCC=3.3V Ta=25℃, unless otherwise specified)

Characteristics	Symbol	Min	Typ	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

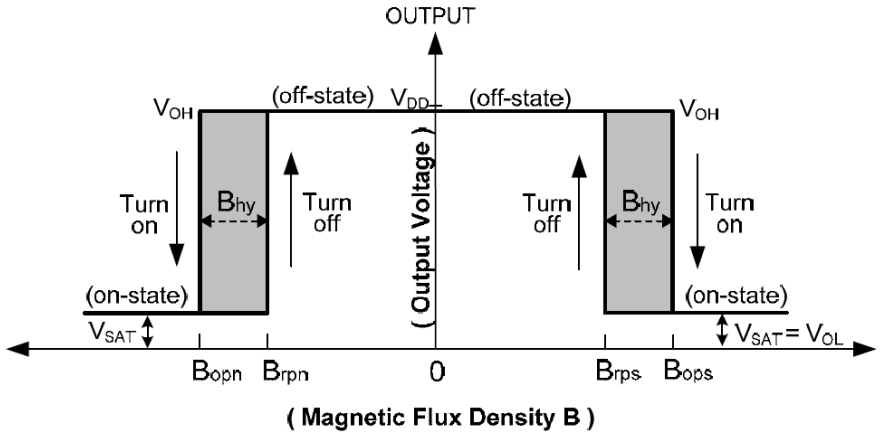


Fig 3

Typical Output Waveform

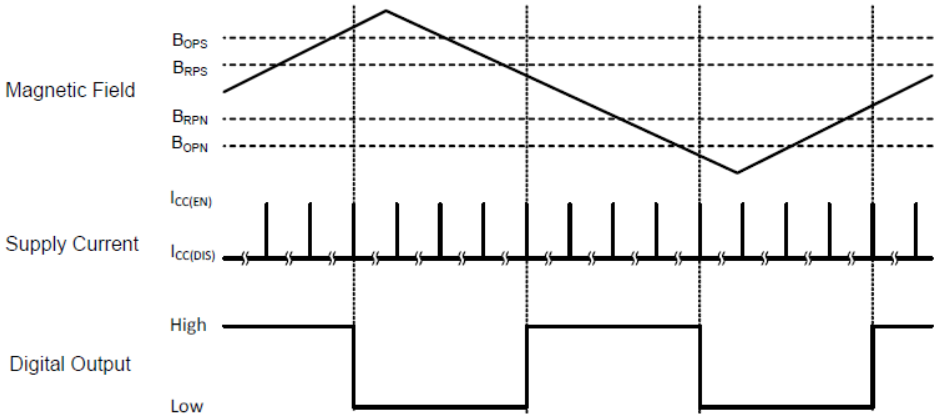
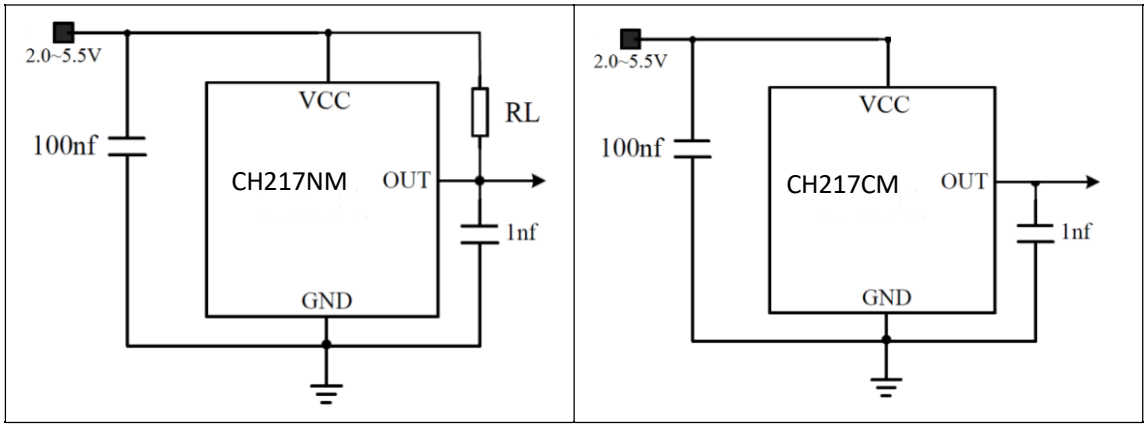
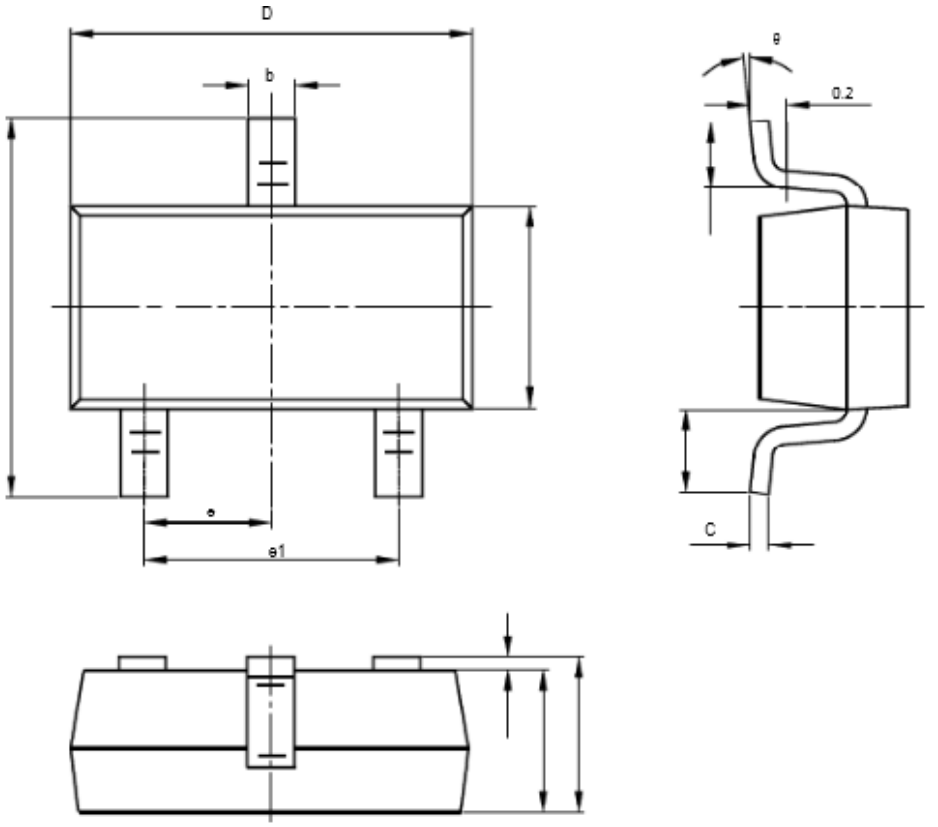


Fig 4

Application Circuits



Package Information
SOT23-3L



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	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
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950TPY		0.037TPY	
e1	1.800	2.000	0.071	0.079
L	0.700REF		0.028REF	
L1	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°