CC6207

MicroPower, Ultra-Sensitive Hall effective switch

General Description

CC6207 is a micropower, ultra sensitive hall effect switch. It is mainly designed for battery-powered, hand held equipment.

CC6207 includes hall sensor, a small-signal amplifier, dynamic offset cancellation and CMOS output. Superior high-temperature performance is made possible through Dynamic Offset Cancellation, which reduces the residual offset voltage normally caused by device package over molding, temperature dependencies, and thermal stresses.

Either North or South pole of sufficient strength will turn the output on.

CC6207 is available in TO-92S, TSOT23-3 and DFN4L packages. The operating temperature is -40°C to 150°C.

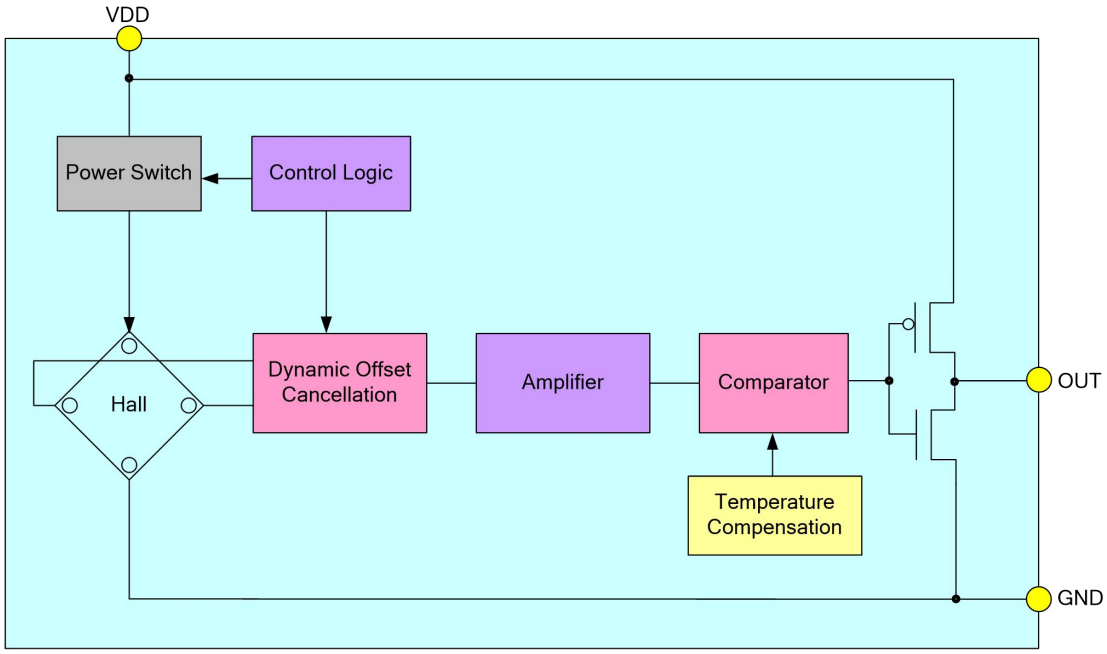
Features

- Wide operating voltage, 2~5V
- micro power
- Operating with North or South pole
- Superior temperature stability
- Extremely Low Switch-point Drift
- ESD（HBM）6000V
- Small package size

Application

- PDA, IPAD
- Cellular phone

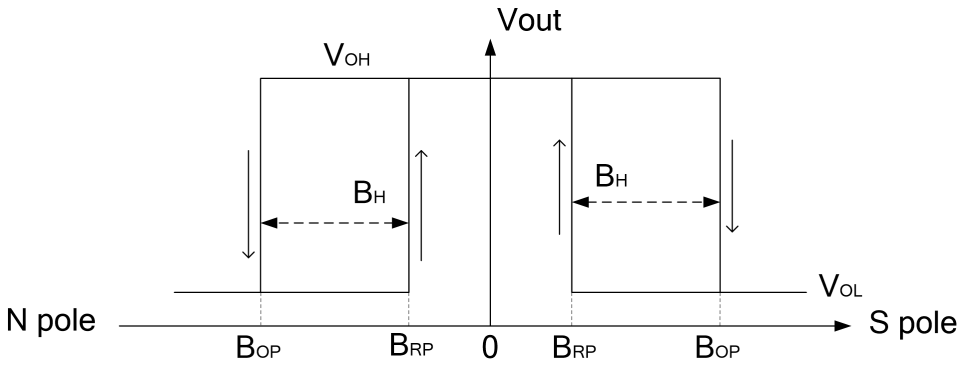
Function Block Diagram



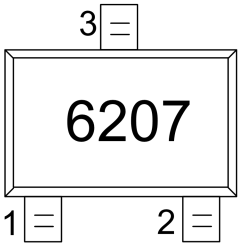
Ordering Information

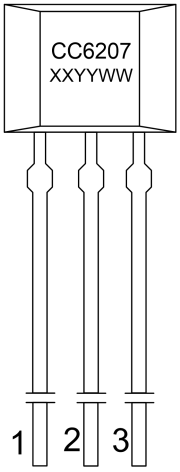
Part No.	Packing Form	Package Code
CC6207TO	bulk，1000 pcs/bulk	TO-92S
CC6207ST	tape reel，3000 pcs/reel	TSOT23-3
CC6207DN	tape reel，12000 pcs/reel	DFN4L

Output Voltage VS. Magnetic Pole



PIN Configurations





Pin Name	PIN NO.			FUNCTION
	TO-92S	TSOT23-3	DFN4L	
V_{DD}	1	1	2	Supply voltage
GND	2	3	4	GND
V_{OUT}	3	2	1	OUT
-	-	-	3	NC

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Supply Voltage	V_{DD}	-0.3~5.5	V
Magnetic Flux Density	B	unlimited	Gauss
Junction Temperature	T_A	-40~150	°C
Storage Temperature	Ts	-50~160	°C
ESD(HBM)		6000	V

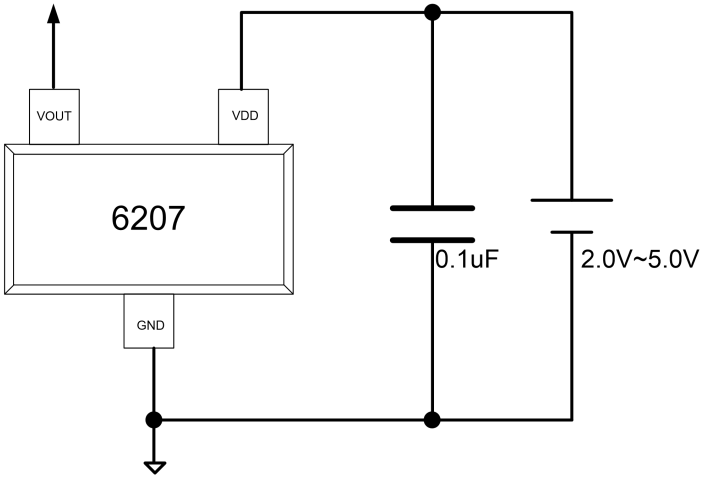
Electrical Parameters (V_{DD}=5V @ 25°C room temperature, unless specified otherwise)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Output High Voltage	V_{OH}	I_{OUT}=0.5mA	V_{DD}-0.2	-	-	V
Output Low Voltage	V_{OL}	I_{OUT}=0.5mA	-	-	0.2	V
Supply Current	$I_{DD(EN)}$		-	2	-	mA
	$I_{DD(dis)}$		-	3	-	uA
Average Current	$I_{DD(average)}$		-	5	-	uA
Awake Time	T_{awake}		-	50	100	us
Period	T_{period}		-	25	-	ms
Duty Cycle	D.C.		-	0.2%	-	

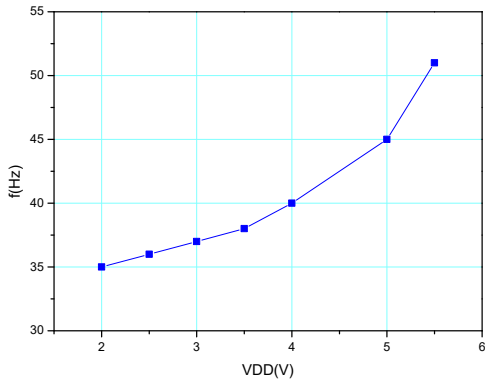
Magnetic Specifications

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Operating Point(south)	B_{OPS}	V_{DD}=3.5V @ T_a=25°C	10	20	30	Gauss
Release Point(south)	B_{RPS}	V_{DD}=3.5V @ T_a=25°C	5	15	25	Gauss
Operating Point(north)	B_{OPN}	V_{DD}=3.5V @ T_a=25°C	-30	-20	-10	Gauss
Release Point(north)	B_{RPN}	V_{DD}=3.5V @ T_a=25°C	-25	-15	-5	Gauss
Hysteresis	B_{HYS}	V_{DD}=3.5V @ T_a=25°C	2	5	8	Gauss

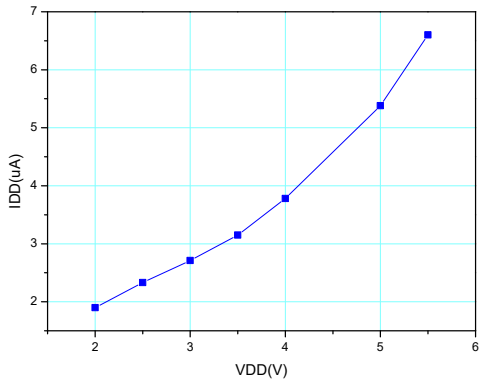
Typical Application Circuit



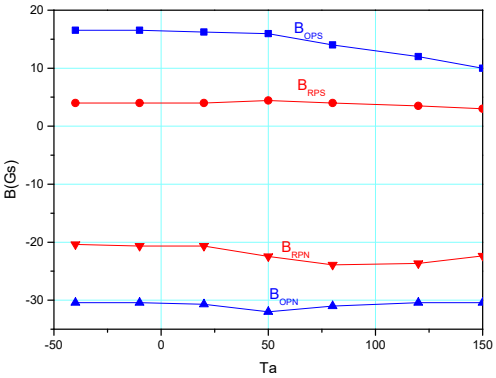
Waveform



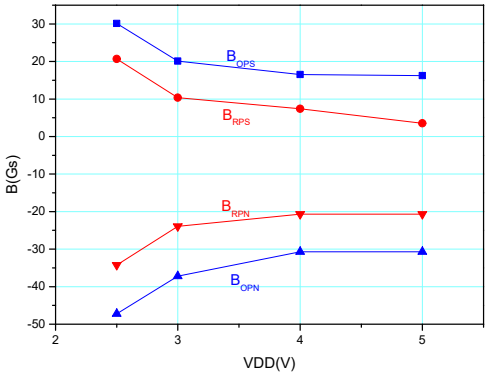
Frequency vs. VDD



Supply current vs. VDD



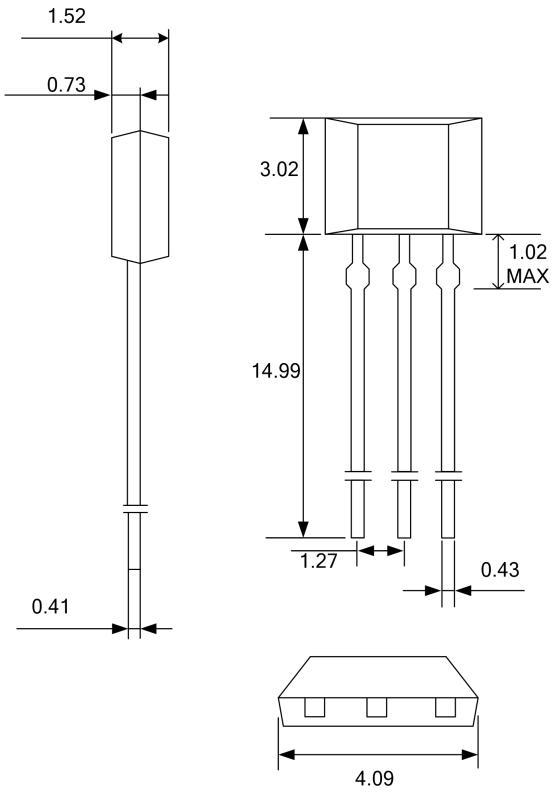
B_{OP}&B_{RP} vs. T_A



B_{OP}&B_{RP} vs. VDD

Package Information

(1)TO-92S Package



Notes:

All dimensions are in millimeters

Marking:

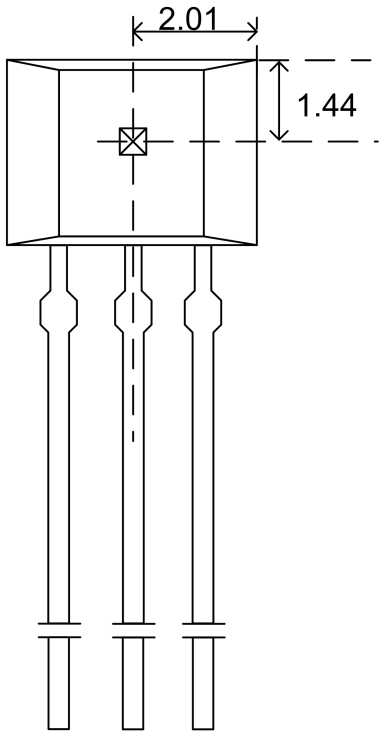
1st Line: CC6207 - Name of the device

2nd Line: YYWW

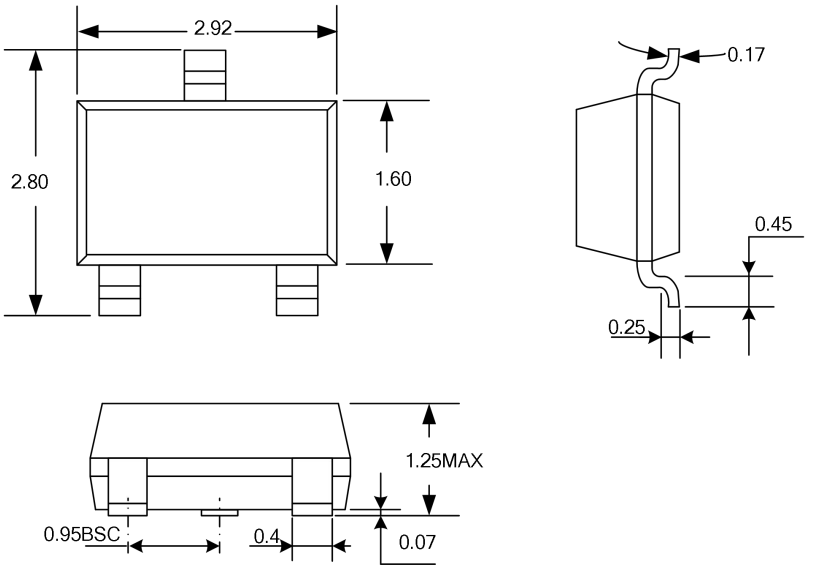
YY - assembly year (last 2 digits)

WW - production batch number

Hall location



(2)TSOT23-3 package



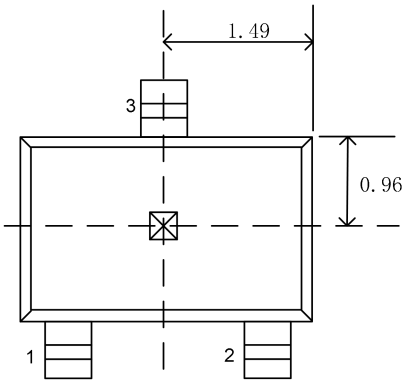
Notes:

All dimensions are in millimeters

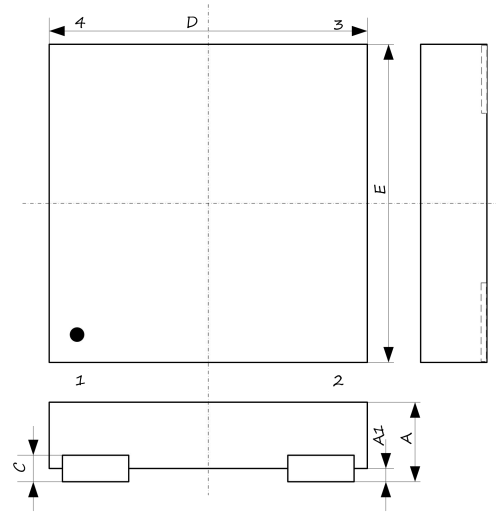
Marking:

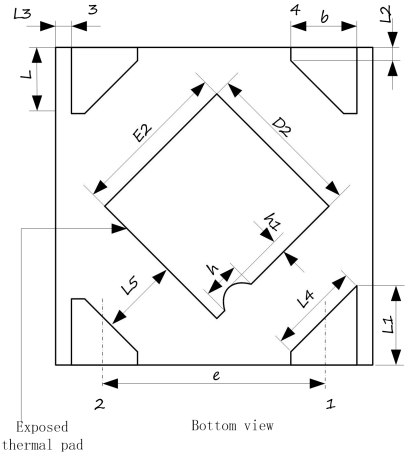
6207

Hall location



(3)DFN4L package





Notes:

All dimensions are in millimeters

Marking:

207

Symbol	Millimeter		
	Min.	Typ	Max.
A	0.35	-	0.40
A1	0.00	0.02	0.05
b	0.20	0.25	0.30
c	0.07	0.12	0.17
D	0.95	1.00	1.05
D2	0.38	0.48	0.58
e	0.65BSC		
E	0.95	1.00	1.05
E2	0.38	0.48	0.58
L	0.20	0.25	0.30
L1	0.27	0.32	0.37
L2	0.077REF		
L3	0.05REF		
L4	0.34REF		
L5	0.20REF		
h	0.09REF		
h1	0.03REF		

Hall location