

General Description

HM6207 is a micropower, ultra sensitive hall effect switch. It is mainly designed for battery-powered, hand held equipment.

HM6207 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.

HM6207 is available in TO-92S, TSOT23-3 and DFN4L packages. The operating temperature is -40°C to 150°C .

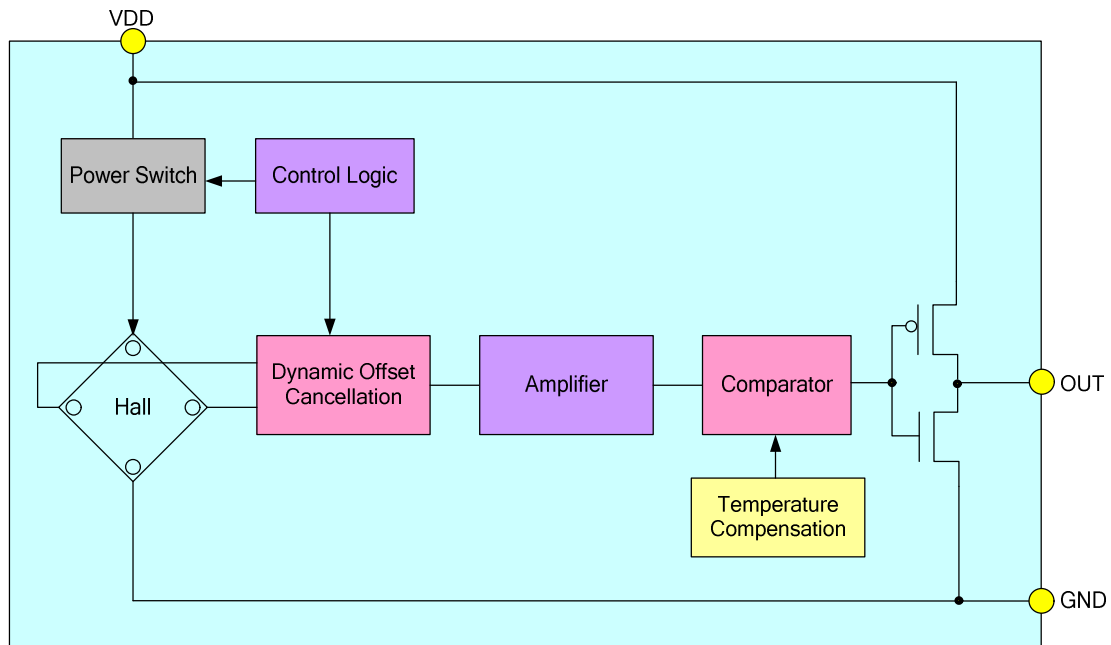
Features

- ◆ 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

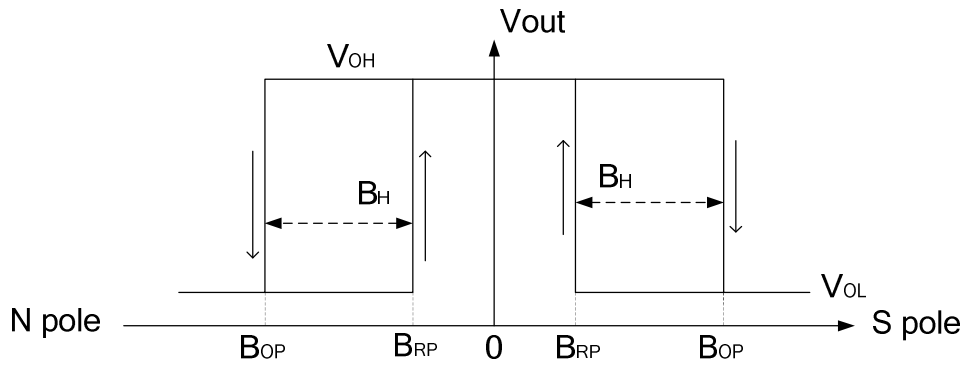
Function Block Diagram



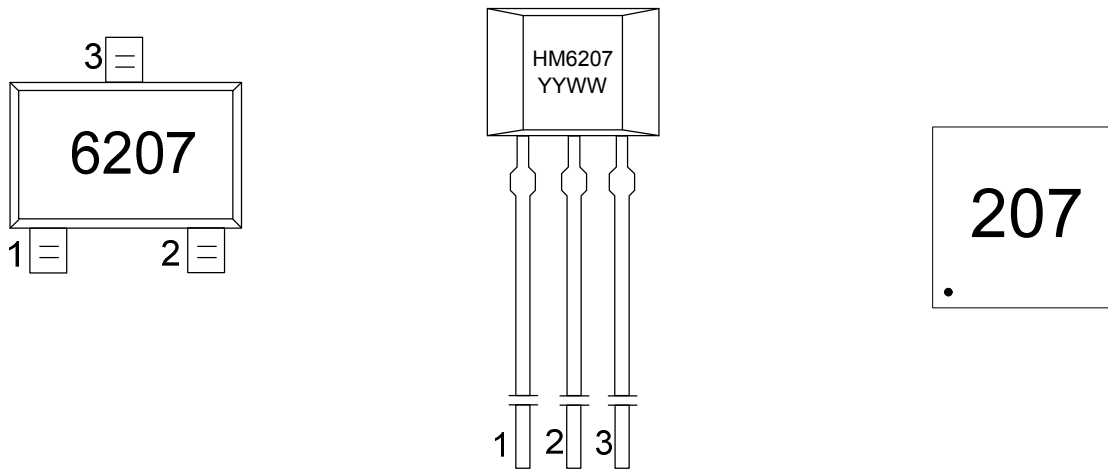
Ordering Information

Part No.	Packing Form	Package Code
HM6207TB	bulk, 1000 pcs/bulk	TO-92S
HM6207MR	tape reel, 3000 pcs/reel	TSOT23-3
HM6207DR	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	T _s	-50~160	°C
ESD(HBM)		6000	V

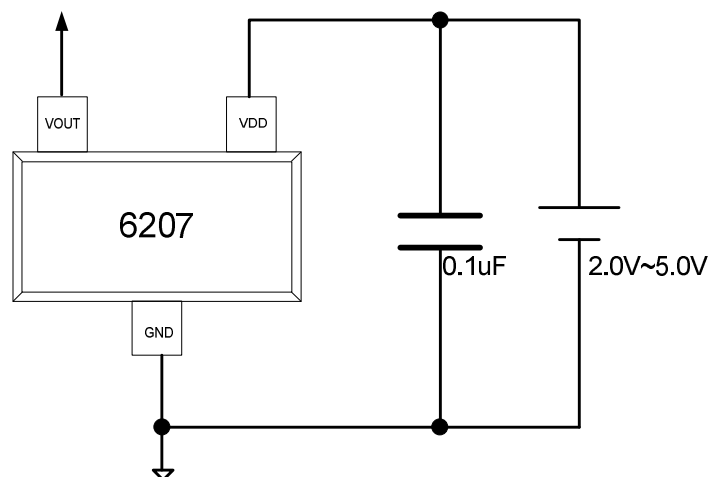
Electrical Parameters (V_{DD}=5V @ 25°C room temperature, unless specified otherwise)

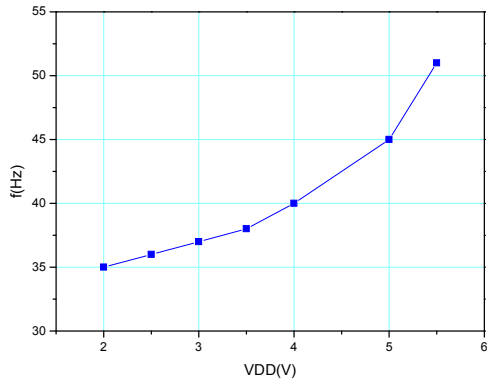
Parameter	Symbol	Condition	Min	Typ.	Max	Unit
Output High Voltage	V _{OH}	I _{OUT} =0.5mA	V _{DD} -0.2	-	-	V
Output Low Voltage	V _{OL}	I _{OUT} =0.5mA	-	-	0.2	V
Supply Current	I _{DD(EN)}		-	2	-	mA
	I _{DD(dis)}		-	3	-	uA
Average Current	I _{DD(average)}		-	5	-	uA
Awake Time	T _{awake}		-	50	100	us
Period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

Magnetic Specifications

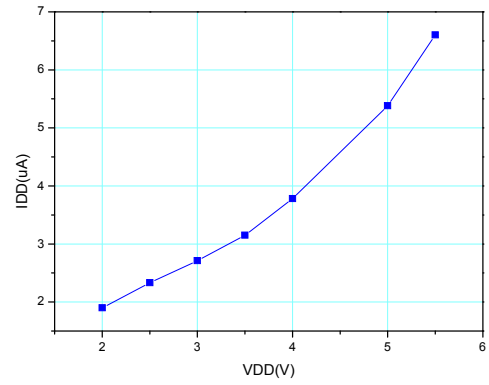
Parameter	Symbol	Condition	Min	Typ.	Max	Unit
Operating Point	B _{OP}	25 °C	-	±20	-	Gauss
Release Point	B _{RP}	25 °C	-	±15	-	Gauss
Hysteresis	B _{HYS}	25 °C	-	5	-	Gauss

Typical Application Circuit

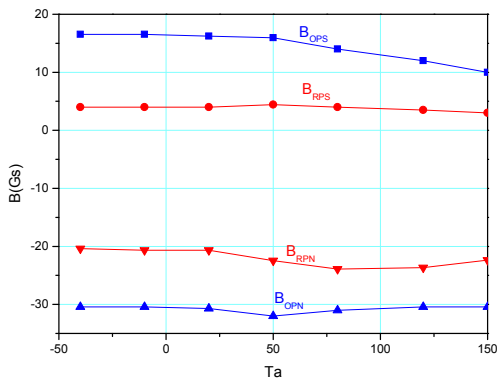




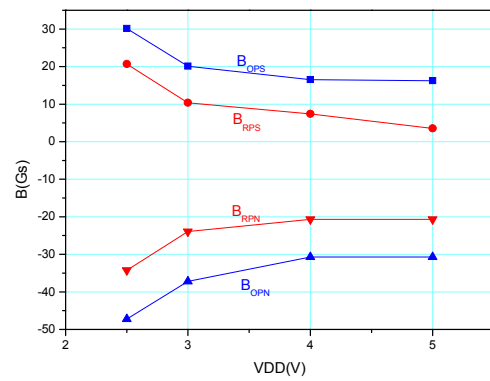
Frequency vs. VDD



Supply current vs. VDD



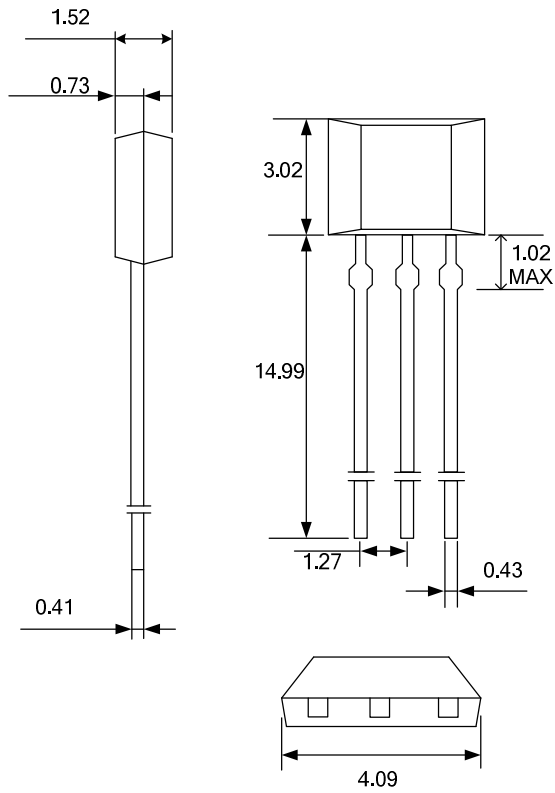
B_{OP}&B_{RP} vs. T_A



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

Package Information

(1)TO-92S Package



Notes:

All dimensions are in millimeters

Marking:

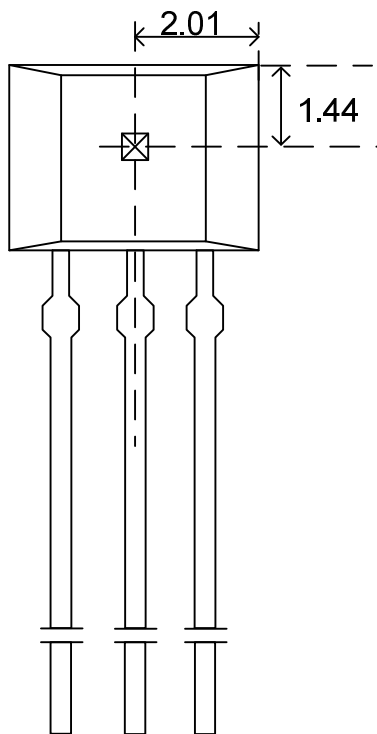
1st Line: HM6207 - Name of the device

2nd Line: YYWW

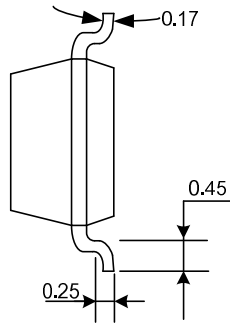
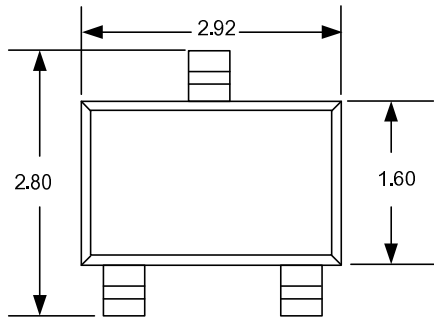
YY - assembly year (last 2 digits)

WW - assembly week number

Hall location



(2)TSOT23-3 package

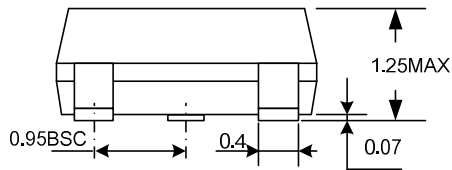


Notes:

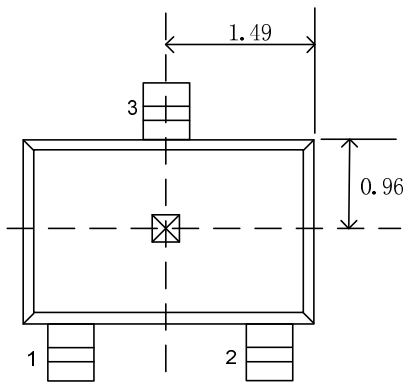
All dimensions are in millimeters

Marking:

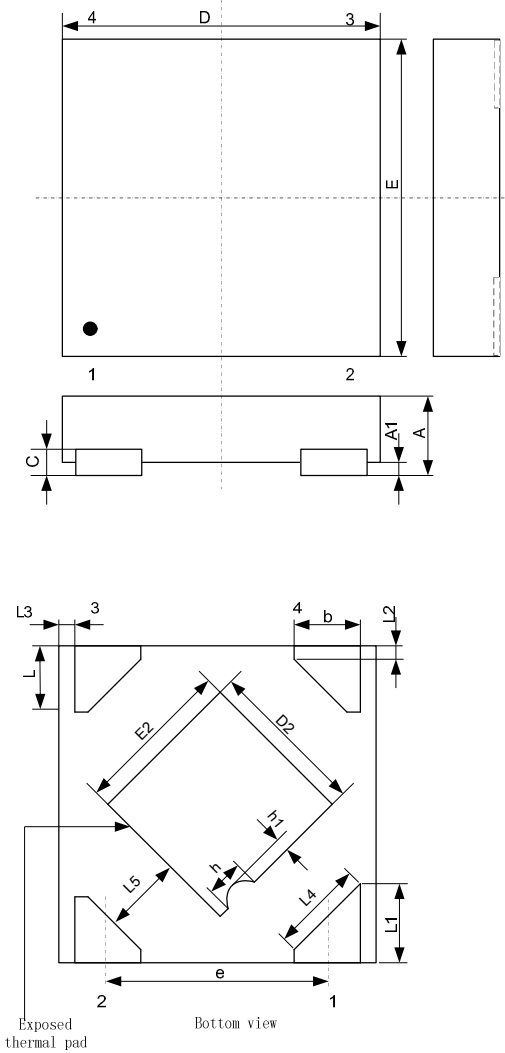
6207



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

