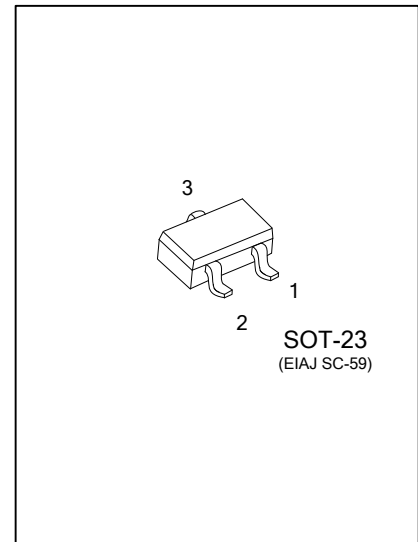


**UH8100****CMOS IC****LOW POWER HALL EFFECT SWITCH****DESCRIPTION**

UH8100 is a low-power integrated Hall switch designed to sense the applied magnetic flux density and give a digital output, which indicates the present condition of the magnitude sensed.

It mainly designed for battery-powered system and hand-held equipment, such as cellular flip-phones and PDA's, in which power consumption is one major concern. The typical power consumption of **UH8100** is down to 15uW at 2.75V supply.

For **UH8100**, the output will be high when no magnetic field is applied and be low when the applied magnetic flux density is stronger than the switching threshold. The difference between **UH8100A** and **UH8100B** is that **UH8100A** consumes less power than **UH8100B** in the Hall sensor operation.

**FEATURES**

- * Micro power Operation
- * 2.5V to 5.5V Battery Operation
- * Offset Canceling Technology
- * Superior Temperature Stability
- * Extremely Low Switch-Point Drift
- * Insensitive to Physical Stress

ORDERING INFORMATION

Ordering Number	Package	Pin Assignment			Packing
		1	2	3	
UH8100AG-AE3-R	SOT-23	O	I	G	Tape Reel
UH8100BG-AE3-R	SOT-23	O	I	G	Tape Reel

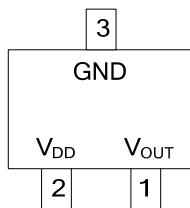
Note: Pin Assignment: O: V_{OUT} , I: V_{DD} , G: GND

UH8100XG-AE3-R (1) Packing Type (2) Package Type (3) Green Package (4) Average Supply Current	(1) R: Tape Reel (2) AE3: SOT-23 (3) G: Halogen Free and Lead Free (4) refer to Electrical Characteristics
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MARKING

UH8100A	UH8100B

■ PIN CONFIGURATIONS

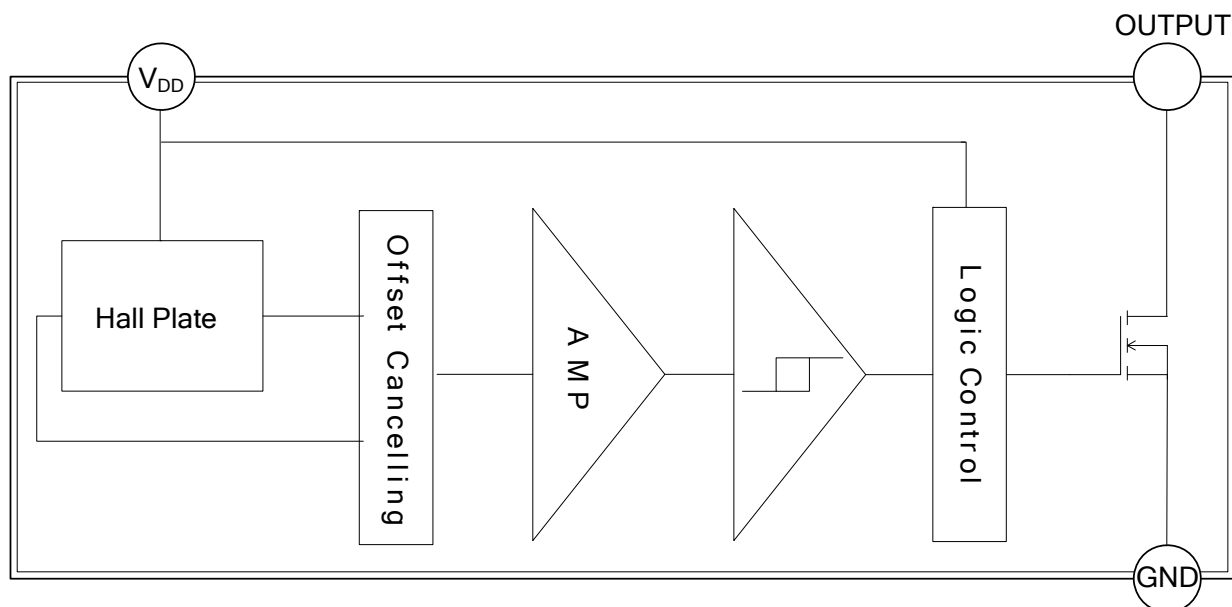


■ PIN DESCRIPTION

PIN NAME	PIN TYPE	PIN DESCRIPTION
V _{OUT}	O	Digital Output
V _{DD}	P	Power Supply
GND	G	Ground

Note: O=Output, P=Power Supply, G=Ground

■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATING (T_A=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Magnetic Flux Density	B	Unlimited	mT
Supply Voltage	V _{DD}	7	V
Output Current	I _O	10	mA
Package Power Dissipation	P _D	230	mW
Junction Temperature	T _J	150	°C
Operation Temperature	T _{OPR}	-40 ~ +85	°C
Storage Temperature	T _{STG}	-65 ~ +150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ RECOMMENDED OPERATING CONDITIONS (T_A=25°C)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Supply Voltage	V _{DD}	Operating	2.5		5.5	V

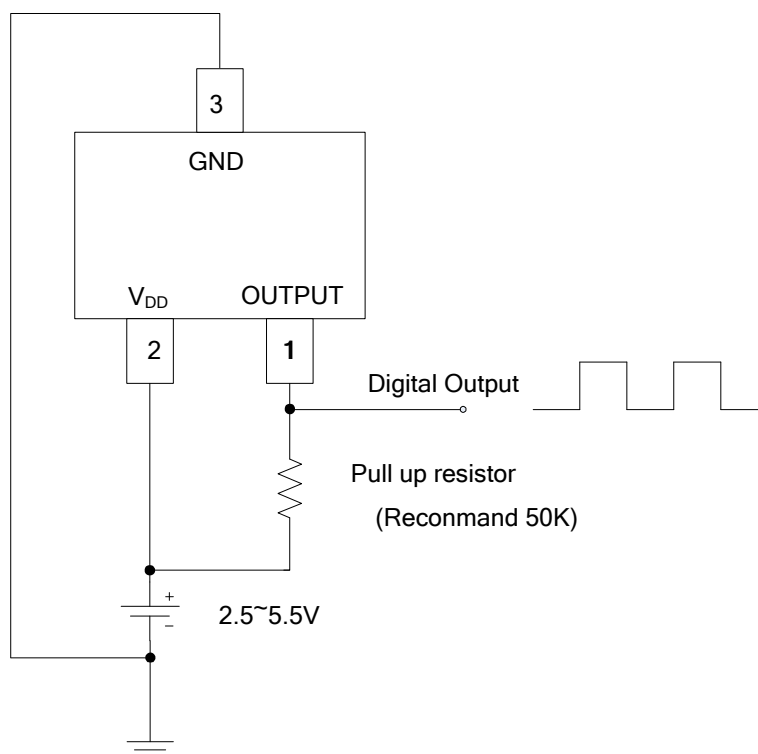
■ ELECTRICAL CHARACTERISTICS (T_A=25°C)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Output On Voltage	V _{OUT}	V _{DD} =3V, I _{OUT} =1mA		0.1	0.3	V
Output Leakage Current	I _{OFF}	V _{DD} =3V, V _{OUT} =5.5V, B<B _{RP}		0.01	1	uA
Supply Current	I _{DD(AVG)}	V _{DD} =3V, average supply current		5	10	uA
		UH8100A		280	500	uA
Awake Time	T _{AWAKE}	V _{DD} =3V		50	100	us
Period	T _{PERIOD}	V _{DD} =3V, UH8100A		50	100	ms
		V _{DD} =3V, UH8100B		200	400	us
Duty Cycle	D.C.	V _{DD} =3V, UH8100A		0.1		%
		V _{DD} =3V, UH8100B		25		%

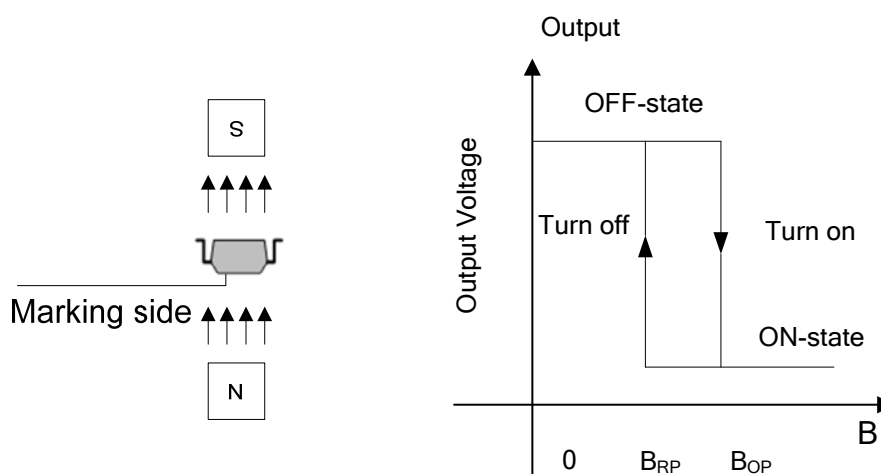
■ MAGNETIC CHARACTERISTICS (T_A=25°C, V_{DD}=3V)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Operation Points	B _{OP}		40	60	Gauss
Release Points	B _{RP}	10	30		
Hysteresis	B _{OP} -B _{RP}		10		

■ TYPICAL APPLICATION CIRCUIT



■ MAGNETIC FLUX



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