UNIPOLAR HALL EFFECT SENSOR IC Y3144

◆ General Description

Y1344 series high temperature unipolar Hall effect integrated sensor is a magnetic sensing circuit composed of internal voltage stabilizing unit, Hall voltage generator, differential amplifier, temperature compensation unit, Schmitt trigger and open collector output stage. Its input is magnetic induction strength and its output is a digital voltage signal.

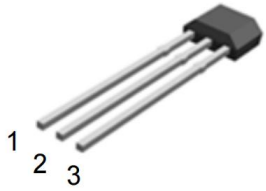
It is a magnetic sensing circuit with a single magnetic pole, which is suitable for working under rectangular or cylindrical magnets. Y1344 series can operate at - 40 ℃~150 ℃. The operating range of power supply voltage is 3.8V~30V, and the maximum load current capacity is 40mA. The packages are SIP3L (TO92S)

◆ Features

- Wide power supply voltage range and large output current
- Fast switching speed,no instantaneous jitter
- Operating frequency width(0~100KHz)
- Long service life, small size and convenient installation
- Can interface with logic circuit directly

◆ Applications

- DC brushless motor
- Automobile igniter
- Contactless switch
- Current sensor
- Safety alarm device
- Isolation detection



UA:SIP-3L(TO-92S)

◆ Odering Information

Product	Temp.Range	Package	Voltage	Packing
Y1344LUA	L(Note1)	UA(Note2)	3.8~30V	1000PCS/BAG

Note:
1.**L** represents the operating temperature range of-**40**℃~**150**℃; 2.**UA** represents that the packaging form is **SIP-3L (TO-92S)**

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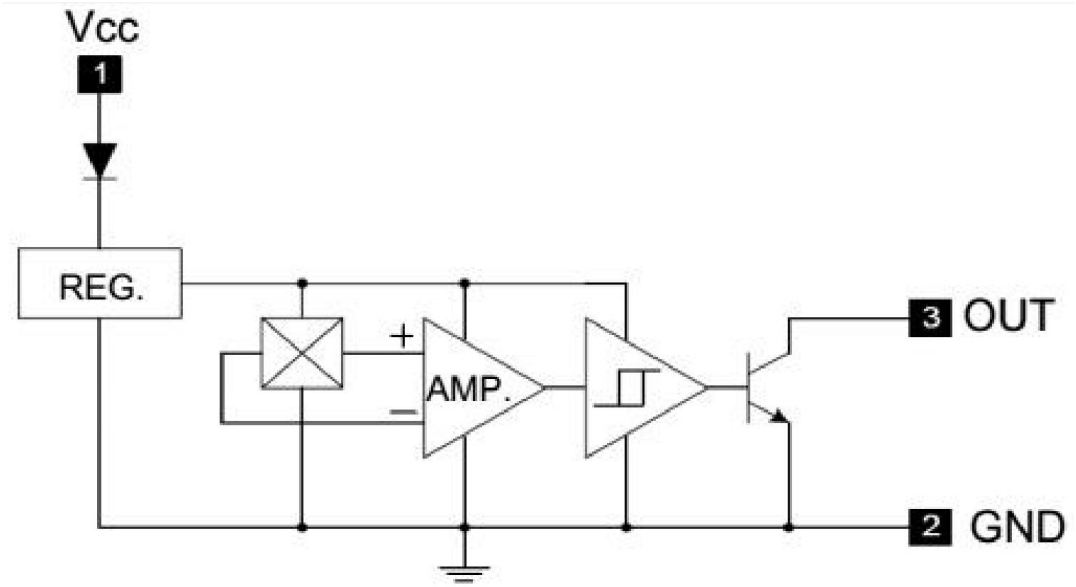
◆ Pin Description

Pin Number	Pin Name	Function
1	VCC	IC Power Supply voltage
2	GND	IC Ground
3	VOUT	Open Collector Output,a pull-up resistor is needed

◆ Functional Block Diagram



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◆ Absolute Maximum Ratings

(TA=25℃)

Parameter	Symbol	Value	Unit
Supply Voltage	V_{CC}	-30 to +40	V
Output reverse voltage	V_{CE}	-40	V
Output Current	I_O	50	mA
Power Dissipation	P_D	450	mW
Operating Temperature	T_A	-40 to +150	℃
Junction Temperature	T_J	+150	℃
Storage Temperature Range	T_{STG}	-65 to +170	℃
Magnetic Flux	B	Unlimited	Gauss

◆ Electrical Characteristics(Note1)

(Vcc=12V,T_A=25℃， unless otherwise specified)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Supply Voltage	V_{CC}		3.8		30	V
Supply Current	I_{CC}		-	4.0	10	mA
Output Leakage Current	I_{OH}	V_{OUT}=30V;B>B_{OP}	-	0.1	10	uA
Output Saturation Voltage	V_{OL}	I_{OUT}=25mA;B>B_{OP}	-	150	250	mV
		I_{OUT}=45mA;B>B_{OP}	-	350	500	mV
Rise Time	t_r	R_L=820Ω;C_L=20PF	-	0.2	-	us
Fall Time	t_f	R_L=820Ω;C_L=20PF	-	0.5	-	us

Note1: Stresses greater than those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated under "Recommended Operating Conditions" is not implied. Exposure to "Absolute Maximum Ratings" for extended periods may affect device reliability.

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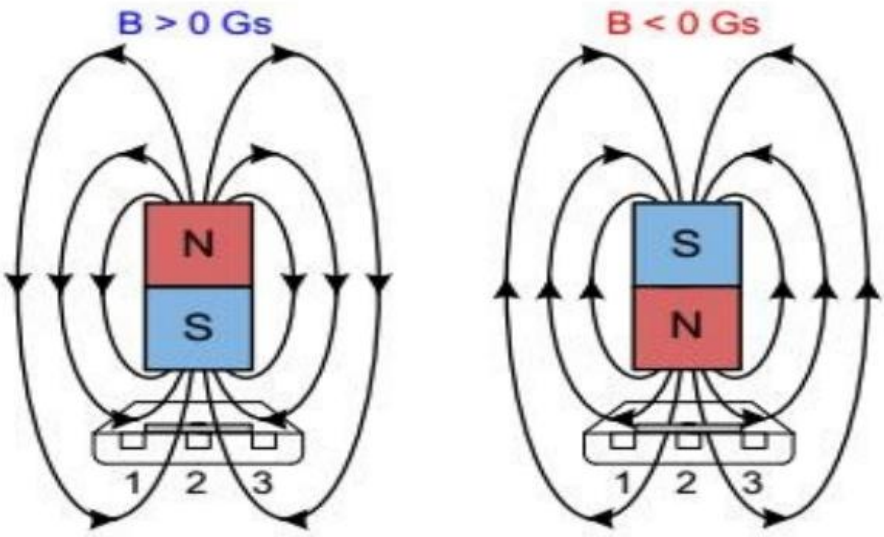
◆ Magnetic Characteristics

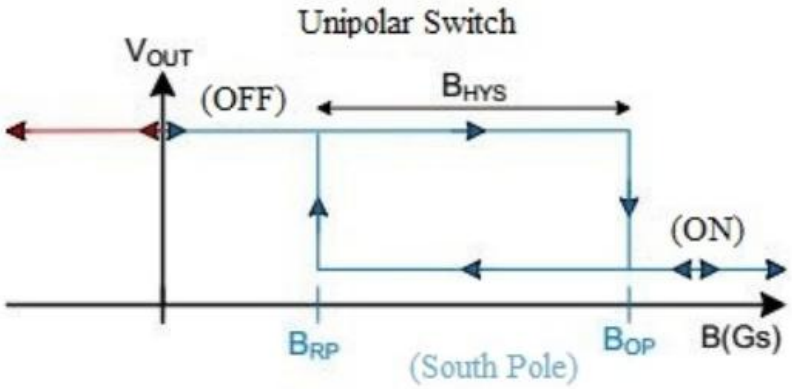
(Vcc=12V,T_A=25℃)

Parameter	Symbol	Min	Typ	Max	Unit
Operating Point	B_{OP}	70	-	200	Gauss
Releasing Point	B_{RP}	50	-	170	Gauss
Hysteresis	B_{HYS}	20	50	80	Gauss

Note:1mT=10GS

◆ Output Characteristics





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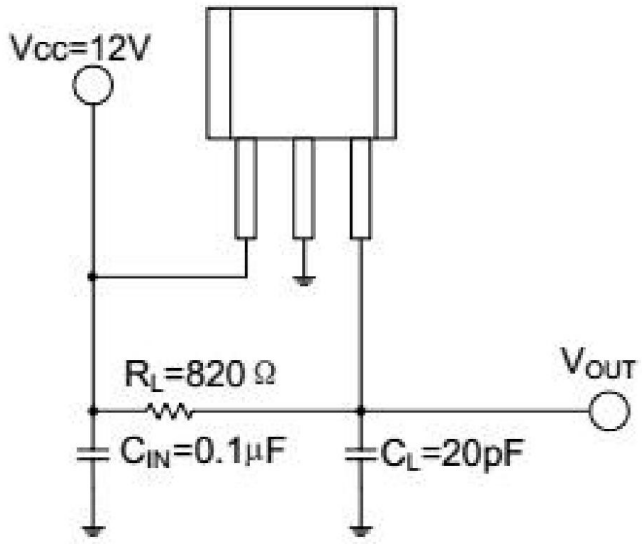
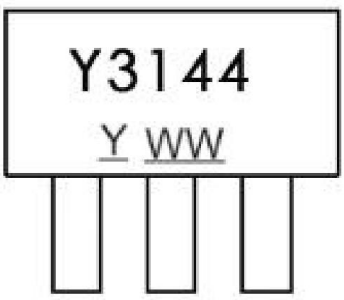
◆ Typical Application



Note:CIN is used to stabilize external power supply.RL is the pull-up resistance necessary for open collector output,with a value range of 820Ω~100KΩ,depending on the current capacity required bt the back-end input;CL is used to filter out the output noise.This capacitor will affect the rise time of the waveform

◆ Marking Information



Y : Year : "8" = 2008

WW : Nth Week 01~52

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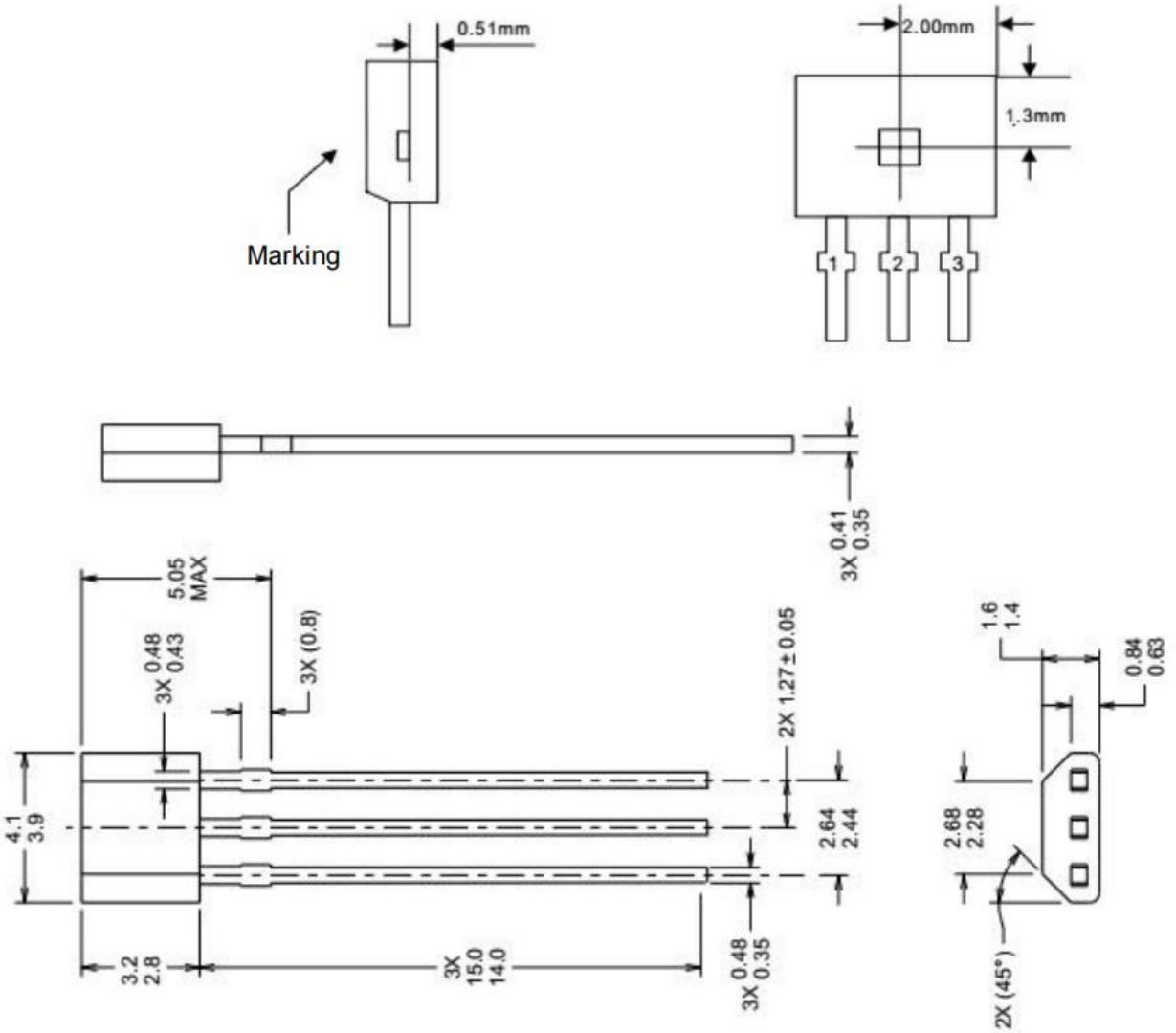
◆ Pacakge Information

(UA: SOT23-3L) Unit:mm



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