

■ **General Description**

The SS40 is an integrated Hall effect latched sensor designed for electronic commutation of brush-less DC motor applications. The device includes an on-chip Hall voltage generator for magnetic sensing, a comparator that amplifies the Hall voltage, and a Schmitt trigger to provide switching hysteresis for noise rejection, and open-collector output. An internal bandgap regulator is used to provide temperature compensated supply voltage for internal circuits and allows a wide operating supply range.

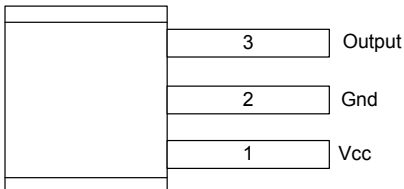
A north pole of sufficient strength will turn the output ON. In the absence of a magnetic field, the output is OFF.

■ **Features**

- Wide operating voltage range: 3.8V~30V
- Maximum output sink current 25mA
- Open-Collector pre-driver
- Reverse polarity protection
- Package: SIP3

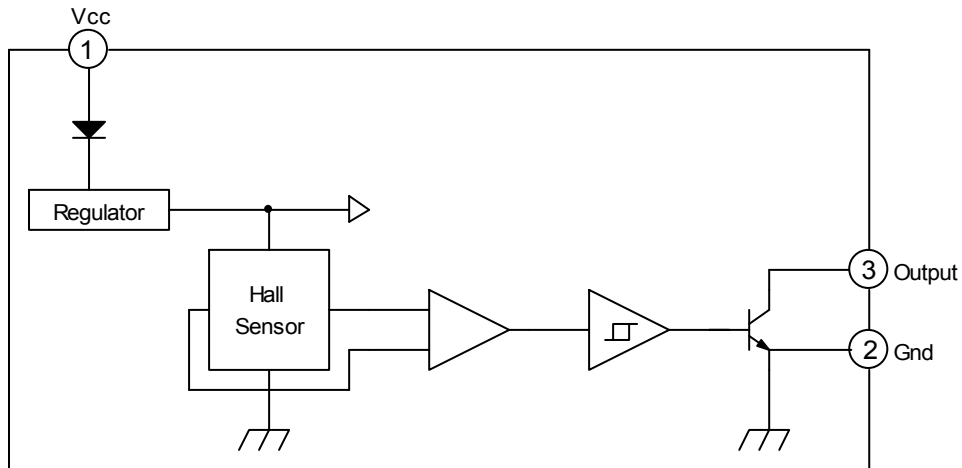
■ **Pin Configuration**

(Top View)



Name	No.	Status	Description
Vcc	1	P	IC Power Supply
Gnd	2	P	IC Ground
Output	3	O	It is low state during the N magnetic field

■ **Block Diagram**



■ Absolute Maximum Ratings

Vcc Pin Voltage		30V
Output OFF Voltage, Vce		30V
Output ON Current(Io) (Continuous Current)		25mA
Power Dissipation	Ta=25°C	400mW
	Ta=100°C	178mW
Thermal Resistance	T _{ja}	0.34°C/mW
	T _{jc}	0.42°C/mW
Operating Temperature Range		-40°C ~+125°C
Storage Temperature Range		-65°C ~+150°C
Junction Temperature		+160°C
Lead Temperature(Soldering, 10 sec)		+260°C

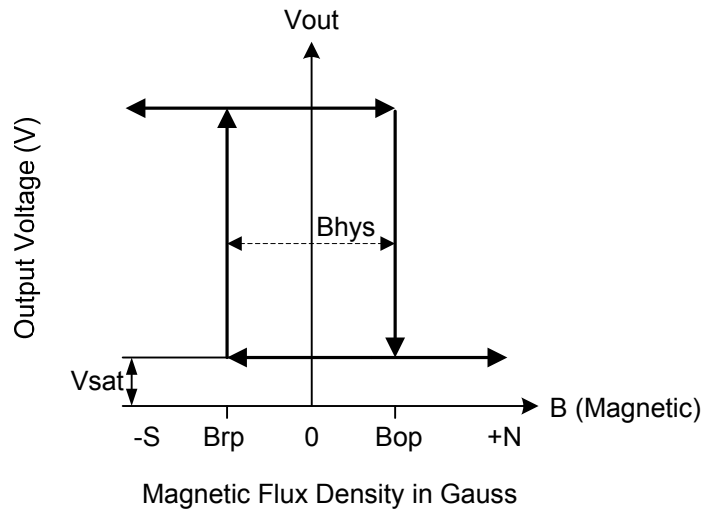
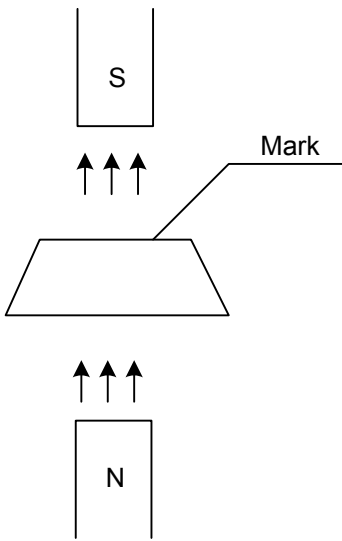
■ DC Electrical Characteristics(at Ta=25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Operating Voltage	Vcc	No use pin is open(Fig1)	3.8	-	30.0	V
Supply current	Icc	No use pin is open Vcc:3.0V~24V(Fig1)	-	3.5	10	mA
Output Saturation Voltage	V _{SAT}	Vcc=12V,Io=20mA(Fig1)	-	165	200	mV
Output Rise time	(t _r)	RL=500Ω CL=20pF(Fig1)	0.2	-	0.75	μS
Output Fall time	(t _f)	RL=500Ω CL=20pF(Fig1)	20	-	150	nS

Note: Fig1 The IC output state is under N magnetic field.

■ Magnetic Characteristics

SS40-A	Ta=-40°C ~+125°C				
Parameter	Symbol	Min.	Typ.	Max.	Unit
Operate point	Bop	+5	-	+80	G
Release Point	Brp	-80	-	-5	G
Hysteresis	Bhys	30		120	G



■ Test Circuits

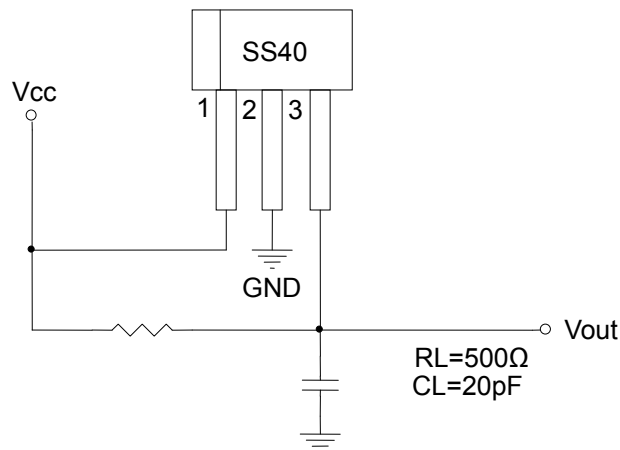
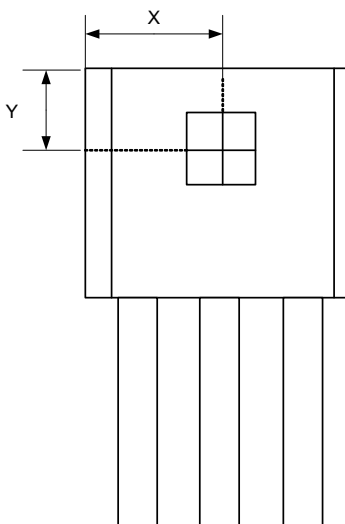


Figure 1. Test Circuit

■ Hall Sensor Location

The Fig2 is hall sensor location, where marks the IC number.



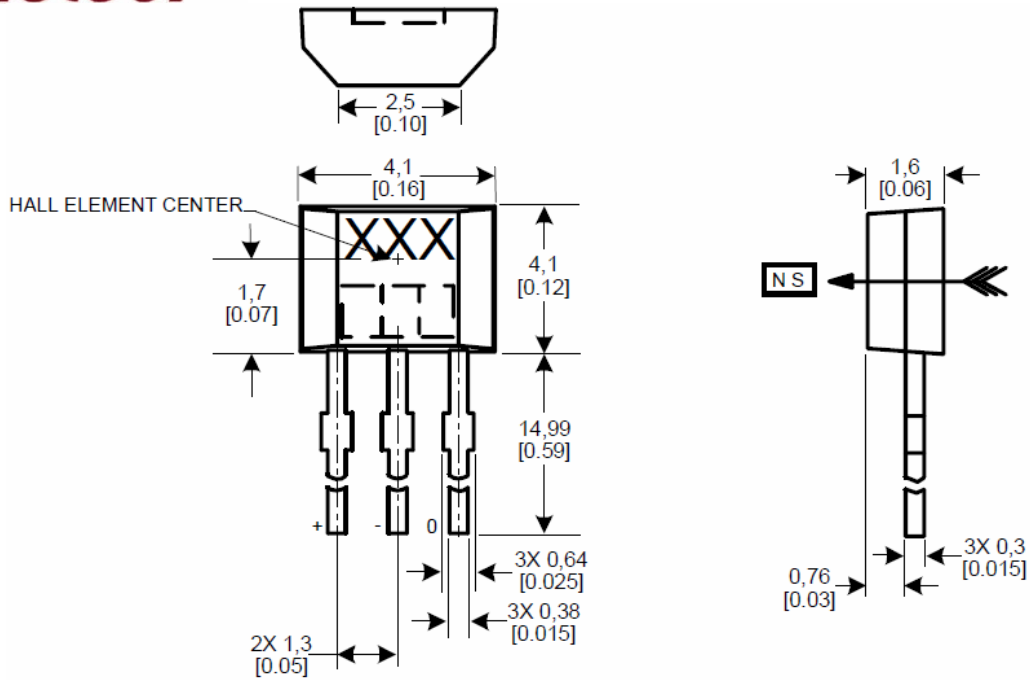
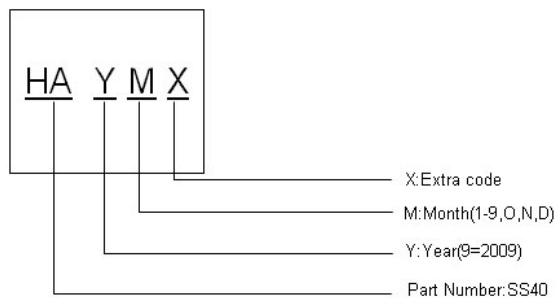


Figure 2. SS40 Hall Sensor Location

■ Ordering Information

PART NUMBER	GRADE	TEMPERATURE RANGE	PACKAGE	TAPE & REEL
SS40IPT	A: ±80G	-40°C to 125°C	SIP3	-T

■ Marking Information



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