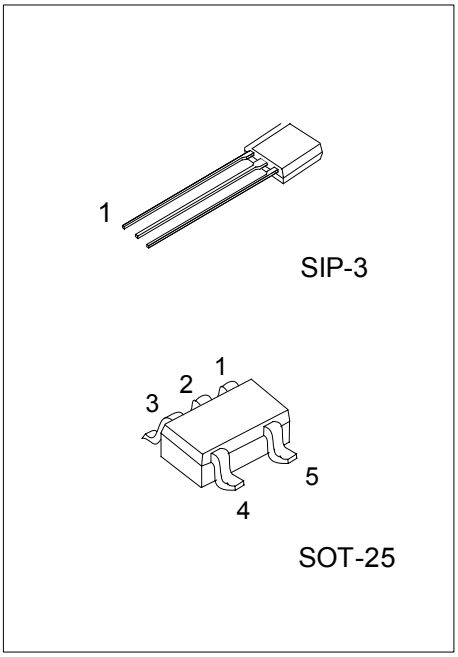
SK8552

LINEAR INTEGRATED CIRCUIT

LOW VOLTAGE OPERATION HALL IC



*Pb-free plating product number: SK8552L

■ DESCRIPTION

SK8552 is a semiconductor integrated circuit utilizing the Hall effect. It has been so designed as to operate in the alternating magnetic field especially at low supply voltage and operation over extended temperature ranges to +125℃.This Hall IC is suitable for application to various kinds of sensors, contact-less switches, and the like.

■ FEATURES

* Wide supply voltage range of 3V to 20V
* Wide temperature operation range of -20℃~+125℃
* TTL and MOS IC are directly drivable by the output
* The life is semipermanent because it employs contactless parts
* SIP-3 , SOT-25 package
* Equipped with an output pull-up resistor (typical 20kΩ)

■ APPLICATION

* Position sensor
* Contact-less sensor
* Detection of cover (open/close)

■ ORDERING INFORMATION

Order Number		Package	Pin Assignment					Packing
Normal	Lead Free Plating		1	2	3	4	5	
SK8552-AF5-R	SK8552L-AF5-R	SOT-25	G	G	O	I	N	Tape Reel
SK8552-G03-K	SK8552L-G03-K	SIP-3	I	G	O	-	-	Bulk

Note: Pin Assignment: I:V_{CC} O:V_{OUT} G:GND N: No Connection

SK8552L-AF5-R

(1)Packing Type — (1) K: Bulk, R: Tape Reel

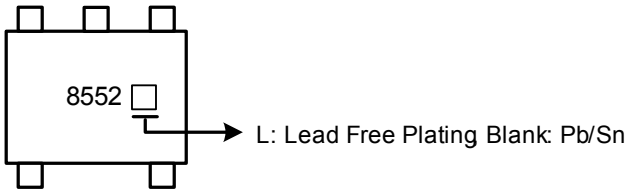
(2)Package Type — (2) AF5: SOT-25, G03: SIP-3

(3)Lead Plating — (3) L: Lead Free Plating, Blank: Pb/Sn

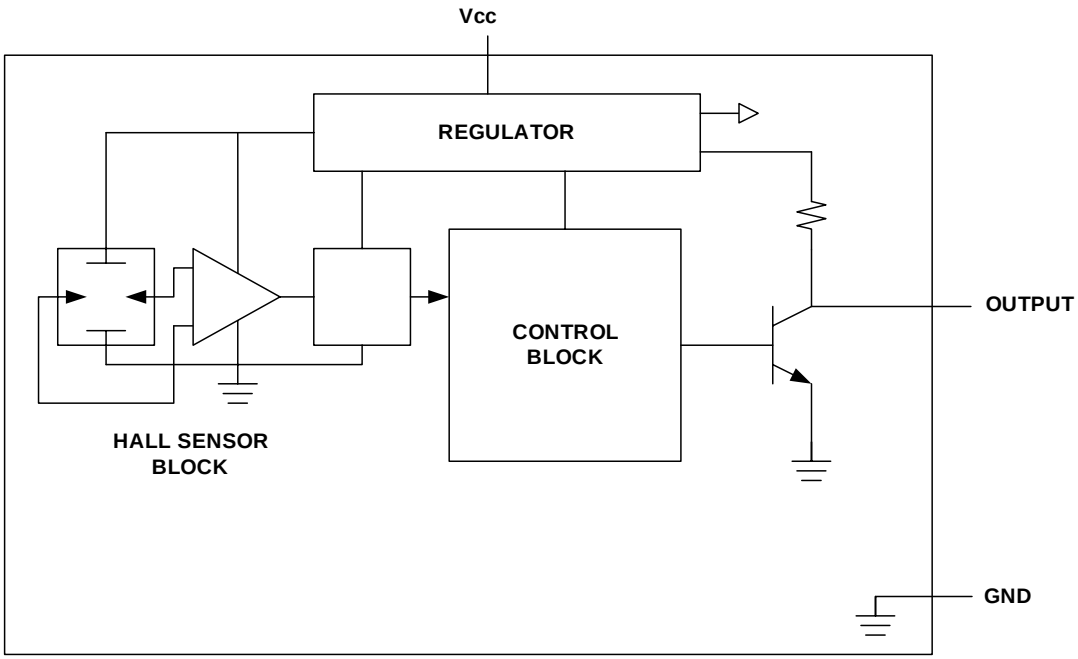
■ MARK INFORMATION

SIP-3

SOT-25



■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATINGS (Ta = 25℃)

PARAMETER		SYMBOL	RATINGS	UNIT
Supply Voltage		V_{CC}	3~20	V
Supply Current		I_{CC}	10	mA
Output Current		I_{OUT}	10	mA
Power Dissipation	SIP	P_D	400	mW
	SOT		200	mW
Junction Temperature		T_J	+125	°C
Operating Temperature		T_{OPR}	-20~ +125	°C
Storage Temperature		T_{STG}	-55~+150	°C

Note 1. 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.

2. The device is guaranteed to meet performance specification within 0°C~+70°C operating temperature range and assured by design from -20°C~+125°C.

■ ELECTRICAL CHARACTERISTICS (Ta = 25℃)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Output voltage SH	V_{OHS}	V_{CC} =3V,I_{OUT} =-10μA,B=100G		2.8	3	V
Output voltage NH	V_{OHN}	V_{CC} =3V,I_{OUT} =-10μA,B=-100G		2.8	3	V
Output voltage SL	V_{OLS}	V_{CC} =3V, I_{OUT} =1mA,B=5G			0.7	V
Output voltage NL	V_{OLN}	V_{CC} =3V, I_{OUT} =1mA,B=-5G			0.7	V
Output current 1	I_{OHS}	V_{CC} =3V,V_{OUT} =3V , B=100G		10		mA
Output current 2	I_{OHN}	V_{CC} =3V,V_{OUT} =3V , B=-100G		10		mA
Supply current	I_{CC}	V_{CC} =3V, B=5G		5		mA
Output switching time	T_R			5		μS
	T_F			1		μS
MAGNETIC CHARACTERISTICS (over operating supply voltage range)						
Operating magnetic flux density	BHLS	V_{CC} =3V	-20			G
Operating magnetic flux density	BHLN	V_{CC} =3V	20			G
Operating magnetic flux density	BLHS	V_{CC} =3V			-100	G
Operating magnetic flux density	BLHN	V_{CC} =3V			100	G

■ PACKAGE INFORMATION

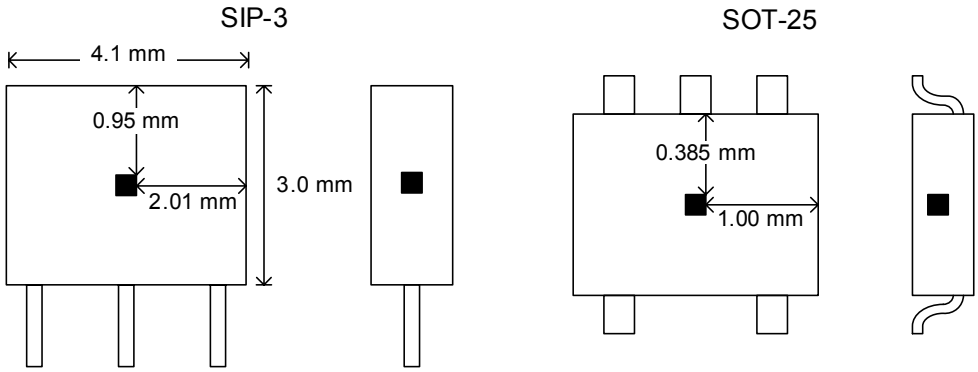


Fig. 1 SENSOR LOCATIONS

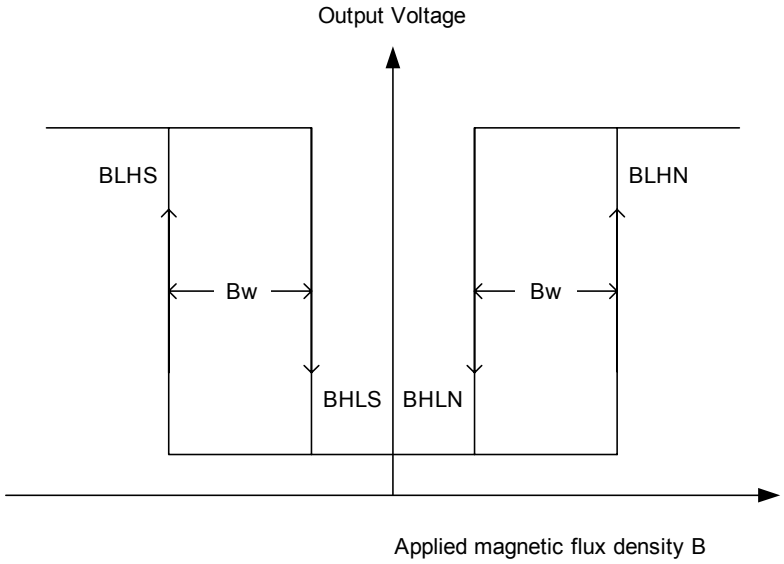


Fig. 2 OPERATING MAGNETIC FLUX DENSITY

■ TYPICAL APPLICATION CIRCUIT