

SK8552

LINEAR INTEGRATED CIRCUIT

LOW VOLTAGE OPERATION HALL IC

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°C. 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°C~+125°C
- * 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)

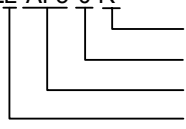
APPLICATION

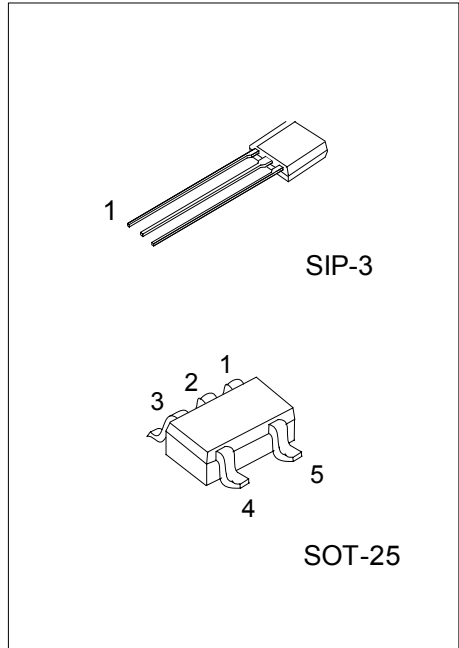
- * Position sensor
- * Contact-less sensor
- * Detection of cover (open/close)

ORDERING INFORMATION

Order Number		Package	Pin Assignment					Packing
Normal	Lead Free Plating		1	2	3	4	5	
SK8552-AF5-0-R	SK8552L-AF5-0-R	SOT-25	G	G	O	I	N	Tape Reel
SK8552-G03-D-K	SK8552L-G03-D-K	SIP-3	I	G	O	-	-	Bulk

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

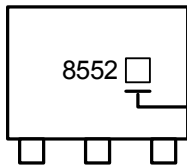
<p>SK8552L-AF5-0-R</p>  <p>(1)Packing Type (2)Pin Assignment (3)Package Type (4)Lead Plating</p>	<p>(1) K: Bulk, R: Tape Reel (2) refer to Pin Assignment (3) AF5: SOT-25, G03: SIP-3 (4) L: Lead Free Plating, Blank: Pb/Sn</p>
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*Pb-free plating product number: SK8552L

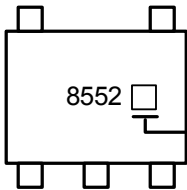
■ **MARK INFORMATION**

SIP-3



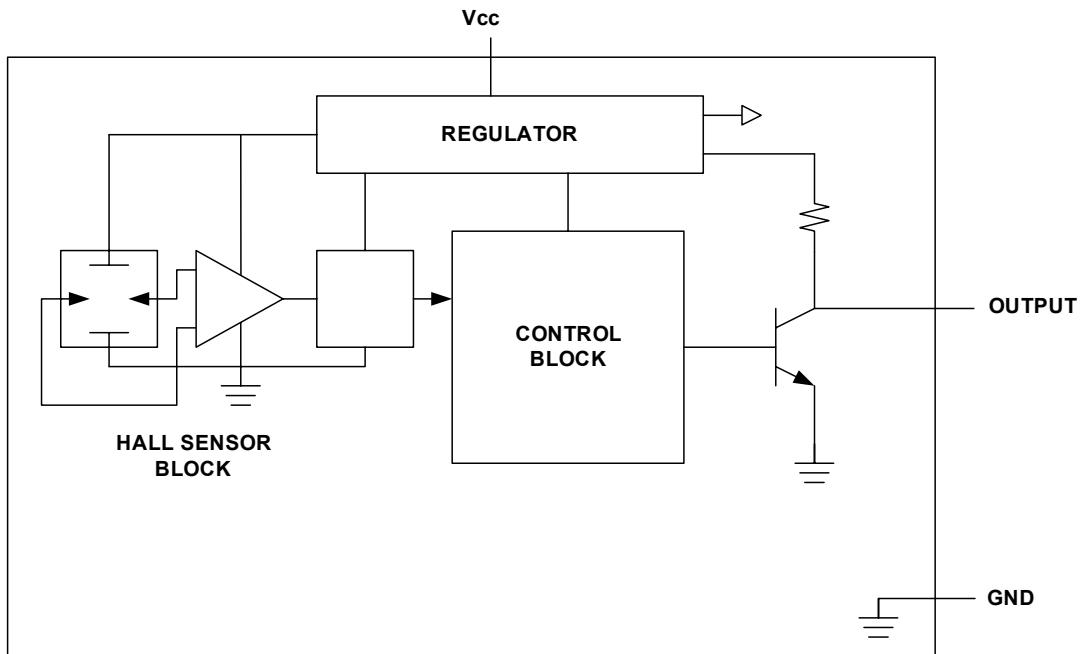
L: Lead Free Plating Blank: Pb/Sn

SOT-25



L: Lead Free Plating Blank: Pb/Sn

■ **BLOCK DIAGRAM**



■ **ABSOLUTE MAXIMUM RATINGS** (Ta = 25°C)

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	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°C)

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**

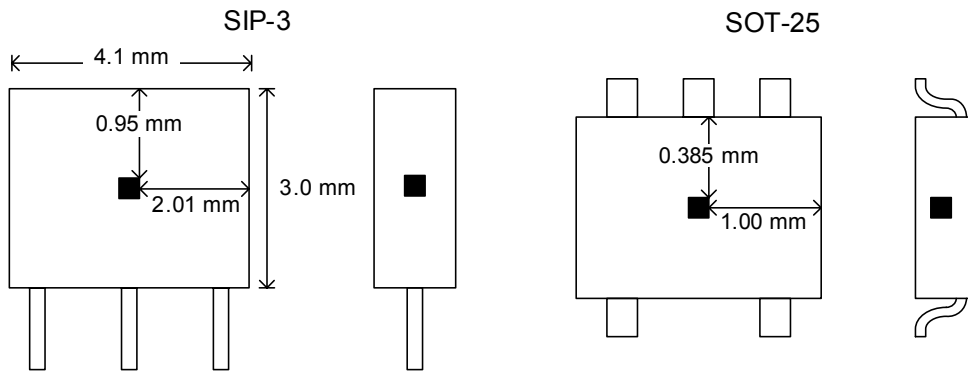


Fig. 1 SENSOR LOCATIONS

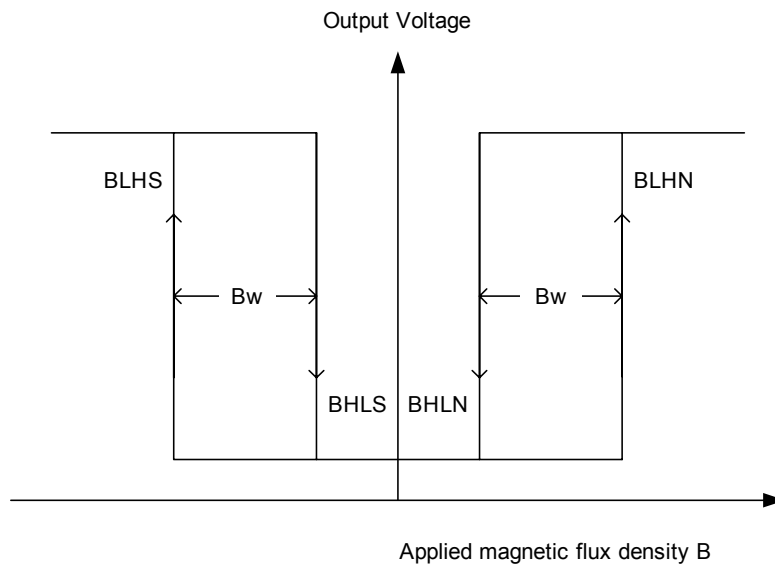
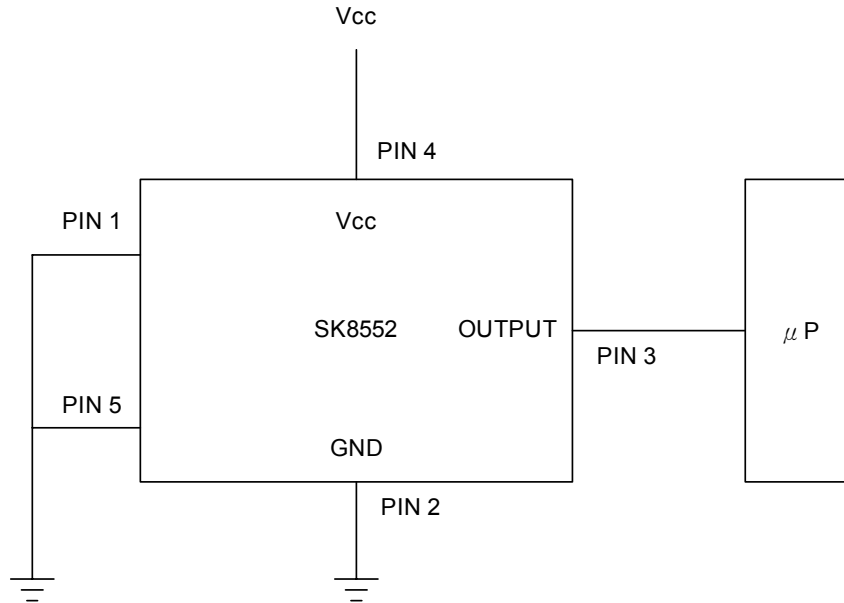


Fig. 2 OPERATING MAGNETIC FLUX DENSITY

■ **TYPICAL APPLICATION CIRCUIT**



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