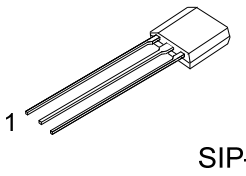
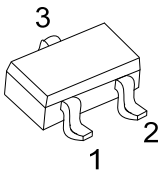
SK1812

LINEAR INTEGRATED CIRCUIT

BIPOLAR LATCH TYPE HALL - EFFECT FOR HIGH-TEMPERATURE OPERATION



SIP-3



SOT-23

■ DESCRIPTION

SK1812 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, contactless switches, and the like.

■ FEATURES

* Wide supply voltage range of 2.5V to 20V
* Wide temperature operation range of -20°C ~+125°C
* Alternating magnetic field operation
* TTL and MOS IC are directly drivable by the output
* The life is semipermanent because it employs contactless parts

■ APPLICATIONS

* Speed sensor
* Position sensor
* Rotation sensor
* Contact-less sensor
* Motor control

■ ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
SK1812L-AE3-R	SK1812G-AE3-R	SOT-23	I	O	G	Tape Reel
SK1812L-G03-K	SK1812G-G03-K	SIP-3	I	G	O	Bulk

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

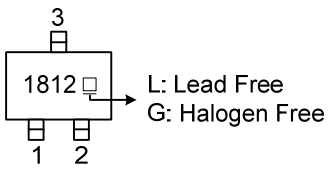
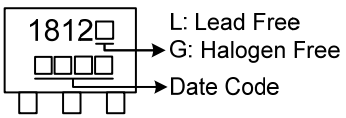
SK1812G-AE3-R

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

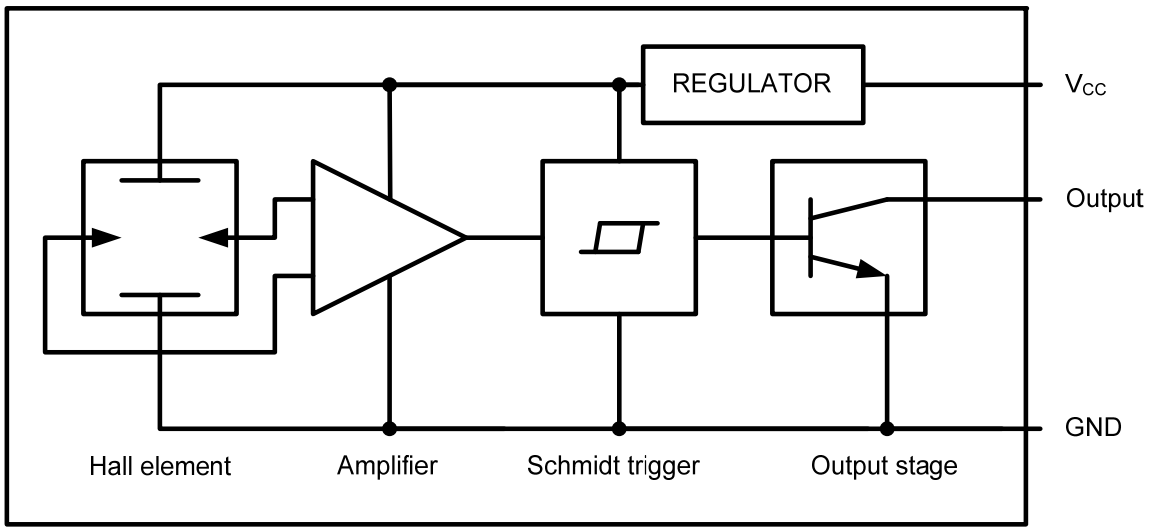
(2)Package Type — (2) AE3: SOT-23, G03: SIP-3

(3)Green Package — (3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING

SOT-23	SIP-3
	

■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATINGS (T_A=25°C unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
Supply Voltage		V_{CC}	2.5~20	V
Supply Current		I_{CC}	10	mA
Circuit Current		I_O	20	mA
Power Dissipation	SIP-3	P_D	400	mW
	SOT-23		200	
Operating Temperature		T_{OPR}	-20 ~ +125	°C
Storage Temperature		T_{STG}	-55 ~ +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.

■ ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Low-Level Output Voltage	V_{OL}	V_{CC}=16V, I_{OUT}=12mA,B=30mT			0.7	V
		V_{CC}=3.6V, I_{OUT}=12mA,B=30mT			0.7	V
Output Leakage Current	I_{LEAK}	V_{CC}=16V, B=-30mT		1	10	μA
Output Short Circuit Current	$-I_{OS}$	V_{CC}=16V, V_{OUT}=0V,B=-30mT		0.8		mA
Supply Current	I_{CC}	V_{CC}=16V			6	mA
		V_{CC}=3.6V			5.5	mA
MAGNETIC CHARACTERISTICS						
Operate Point	BOP	T_A=25°C			5	mT
Release Point	BRP	T_A=25°C			-5	mT
Hysteresis	BHYS	T_A=25°C			10	mT

Notes: 1. BOP =operate point (output turns ON); BRP =release point (output turns OFF); BHYS =hysteresis(BOP – BRP).
As used here, negative flux densities are defined as less than zero (algebraic convention).
Typical values are at T_A=25°C and V_{CC} = 12V.
2. 1mT=10 gauss.

■ PACKAGE INFORMATION

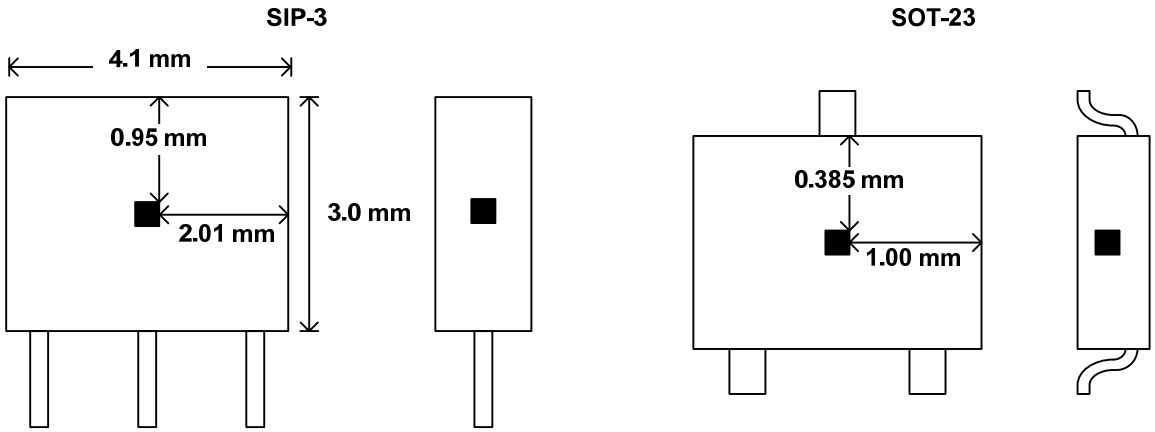
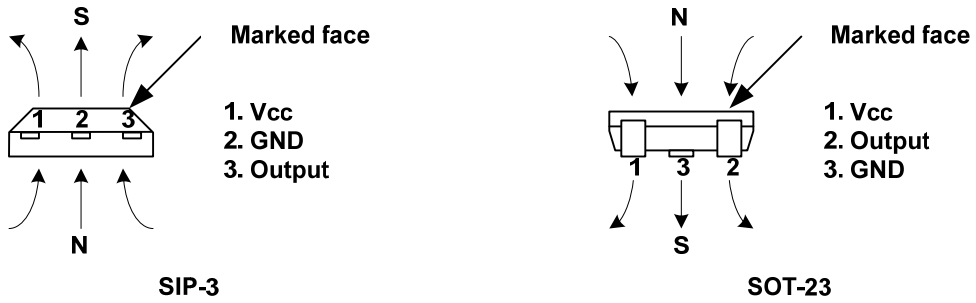


Fig. 1 SENSOR LOCATIONS



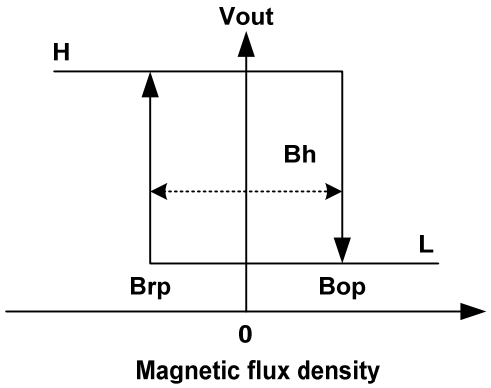
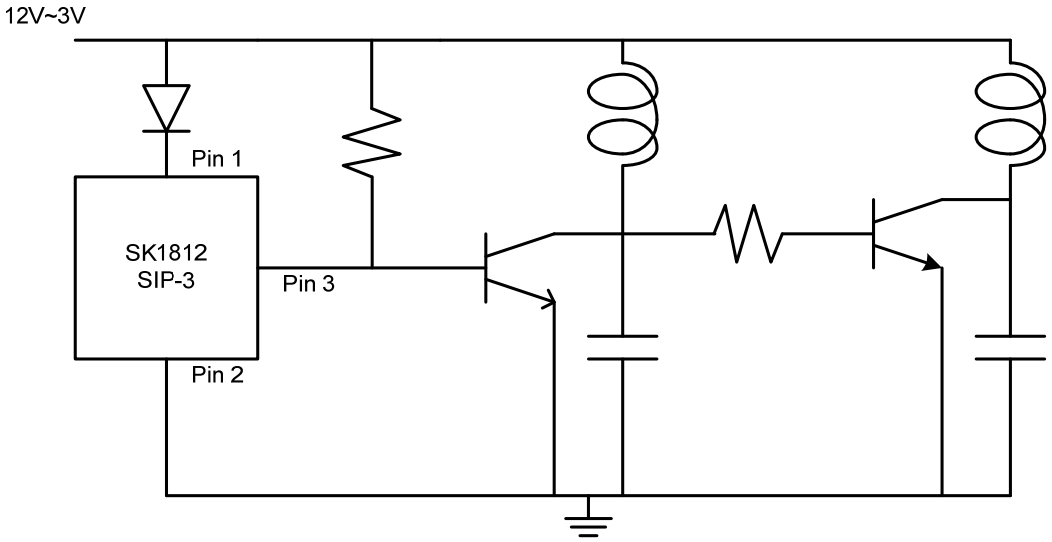


Fig.2 APPLYING DIRECTION OF MAGNETIC FLUX

■ TYPICAL APPLICATION CIRCUIT



■ TYPICAL CHARACTERISTICS