

Monolithic Digital IC

SANYO

No.2635

LB9051

Switching Type Hall IC

The LB9051 is a Hall IC that is operated in the presence of an alternating magnetic field and produces a digital output. The LB9051 contains a silicon Hall generator; an amplifier, a Schmitt trigger circuit on chip and especially suited for detection of magnetism (ex. detection of the rotation of a small magnet-used substance).

Applications

- . Detection of magnetism
- . Contactless switch
- . Detection of the rotation, position of a magnetic substance

Features

- . Operated in the presence of an alternating magnetic field
- . Wide operating voltage range (3.6 to 16V)
- . Output capable of direct driving a TTL, MOS IC
- . High sensitivity (sensitive to low magnetism)

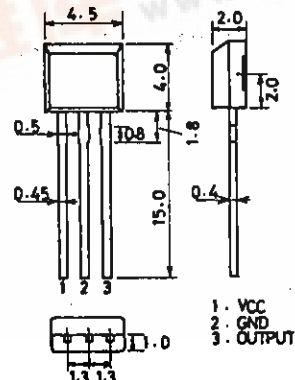
Absolute Maximum Ratings at Ta=25°C

			unit
Maximum Supply Voltage	V _{CC} max	18	V
Maximum Supply Current	I _{CC} max	8	mA
Maximum Output Current	I _{omax}	20	mA
Allowable Power Dissipation	P _{dmax} Ta=80°C	100	mW
Operating Temperature	T _{opr}	-40 to +85	°C
Storage Temperature	T _{stg}	-55 to +125	°C

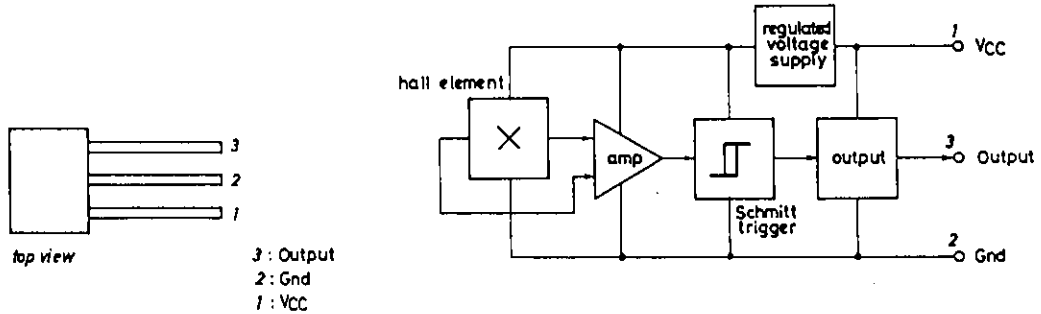
Electrical Characteristics at Ta=25°C

		min	typ	max	unit
Release Point	B _{LH} V _{CC} =12V, Vo:L→H	-300			Gauss
Operate Point	B _{HL} V _{CC} =12V, Vo:H→L			300	Gauss
Output 'L'-Level Voltage	V _{OL1} V _{CC} =16V, I _o =12mA, B=300Gauss			0.4	V
	V _{OL2} V _{CC} =3.6V, I _o =12mA, B=300Gauss			0.4	V
Output 'H'-Level Voltage	V _{OH1} V _{CC} =16V, I _o =-30μA, B=-300Gauss	14.6			V
	V _{OH2} V _{CC} =3.6V, I _o =-30μA, B=-300Gauss	2.2			V
Output Short Current	-I _{OS} V _{CC} =16V, Vo=0V, B=-300Gauss		0.4		mA
Supply Current	I _{CC1} V _{CC} =16V			6	mA
	I _{CC2} V _{CC} =3.6V			5.5	mA

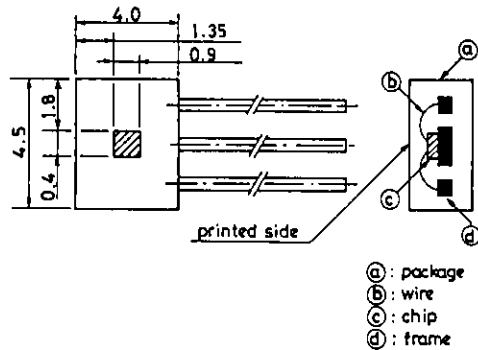
**Package Dimensions
(unit: mm)
3105**



Pin Assignment and Block Diagram

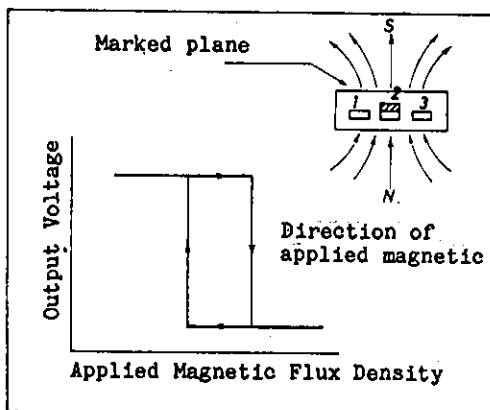


Location of the Hall Generator and Cross-sectional View of the Hall IC



The Hall generator is located in the dashed area.

Magnetic Flux to Electric Voltage Transduce Characteristic



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