

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_{CCmax}	18	V
Maximum Supply Current	I_{CCmax}	8	mA
Maximum Output Current	I_{omax}	20	mA
Allowable Power Dissipation	P_{dmax}	$T_a=80^{\circ}C$	100 mW
Operating Temperature	T_{opr}	-40 to +85	°C
Storage Temperature	T_{stg}	-55 to +125	°C

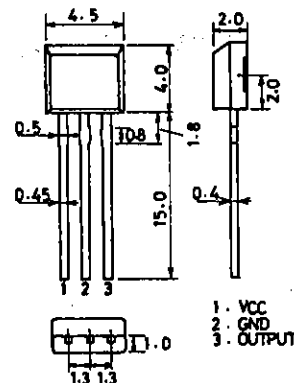
Electrical Characteristics at Ta=25°C

			min	typ	max	unit
Release Point	B_{LH}	$V_{CC}=12V, V_o:L \rightarrow H$	-300			Gauss
Operate Point	B_{HL}	$V_{CC}=12V, V_o:H \rightarrow L$			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}	$V_{CC}=16V, I_o=-30\mu A, B=-300Gauss$	14.6			V
	V_{OH2}	$V_{CC}=3.6V, I_o=-30\mu A, B=-300Gauss$	2.2			V
Output Short Current	$-I_{OS}$	$V_{CC}=16V, V_o=0V, B=-300Gauss$	0.4		0.9	mA
Supply Current	I_{CC1}	$V_{CC}=16V$			6	mA
	I_{CC2}	$V_{CC}=3.6V$			5.5	mA

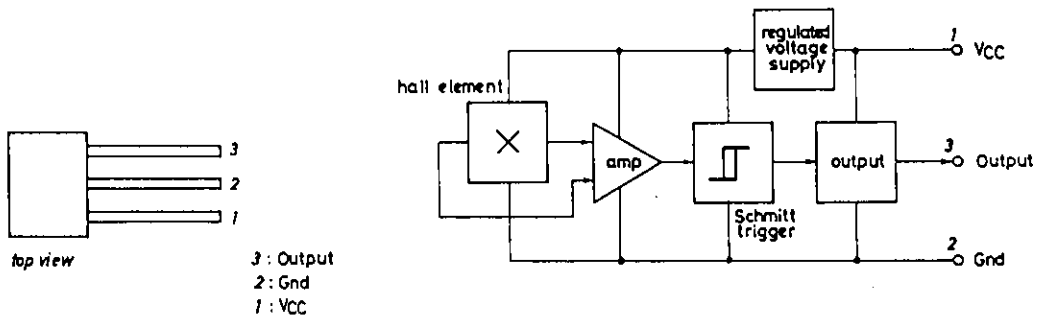
Package Dimensions

(unit: mm)

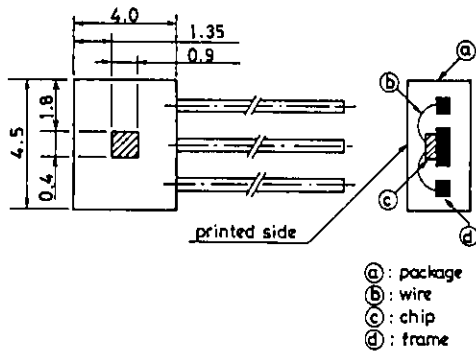
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Pin Assignment and Block Diagram

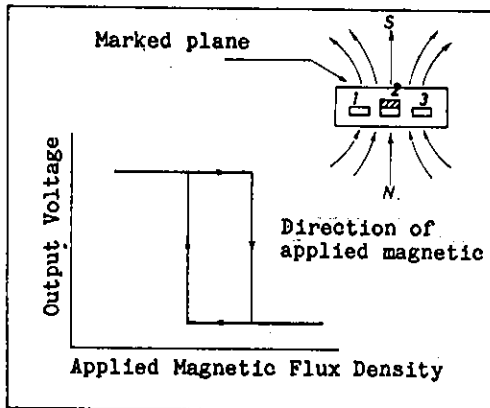


Location of the Hall Generator and Cross-sectional View of the Hall IC



The Hall generator is located in the dashed area.

Magnetic Flux to Electric Voltage Transduce Characteristic



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