

**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

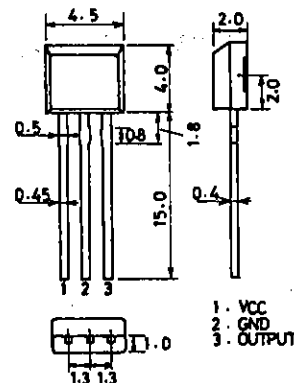
**Electrical Characteristics at Ta=25°C**

			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

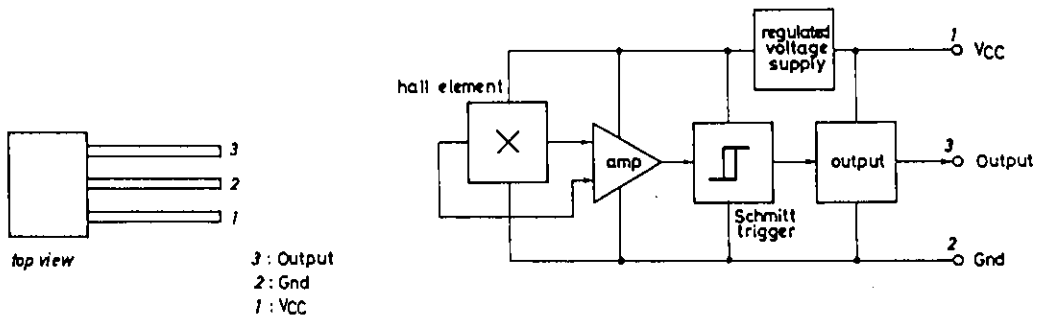
**Package Dimensions**

(unit: mm)

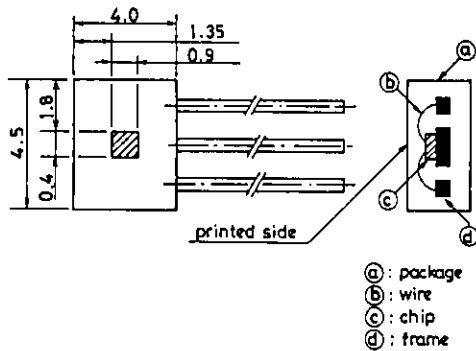
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**Pin Assignment and Block Diagram**

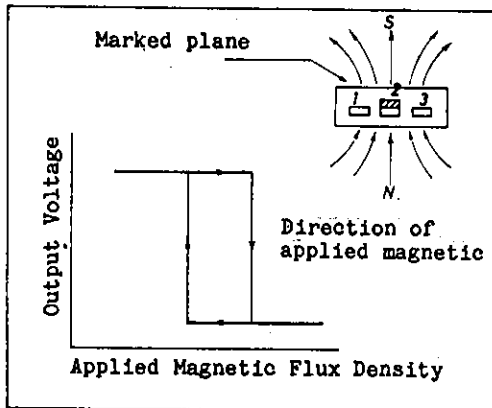


**Location of the Hall Generator and Cross-sectional View of the Hall IC**



The Hall generator is located in the dashed area.

**Magnetic Flux to Electric Voltage Transduce Characteristic**



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