

LB9050

3105

Monolithic Digital IC

Switching Type Hall IC

E2627

The LB9050 is a Hall IC that is operated in the presence of an alternating magnetic field and produces a digital output. The LB9050 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).

Application

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

Features

- . Operated in the presence of an alternating magnetic field
- . Operated from 12V supply
- . Output capable of direct driving a TTL, MOS IC
- . High sensitivity (sensitive to low magnetism)

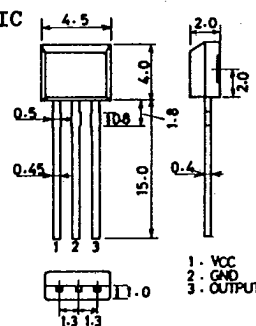
Absolute Maximum Ratings at Ta=25°C

			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} Ta=80°C	100	mW
Operating Temperature	Topg	-40 to +85	°C
Storage Temperature	Tstg	-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
"L"-Level Output Voltage	V_{OL1} $V_{CC}=16V, I_O=12mA, B=300Gauss$			0.4	V
	V_{OL2} $V_{CC}=8V, I_O=12mA, B=300Gauss$			0.4	V
"H"-Level Output Voltage	V_{OH1} $V_{CC}=16V, I_O=-30uA, B=-300Gauss$	12			V
	V_{OH2} $V_{CC}=8V, I_O=-30uA, B=-300Gauss$	4			V
Output Short Current	$-I_{OS}$ $V_{CC}=16V, V_O=0V, B=-300Gauss$	0.32		0.68	mA
Supply Current	I_{CC1} $V_{CC}=16V$			6	mA
	I_{CC2} $V_{CC}=8V$			5.5	mA

Case Outline 3105-S3IC
(unit:mm)

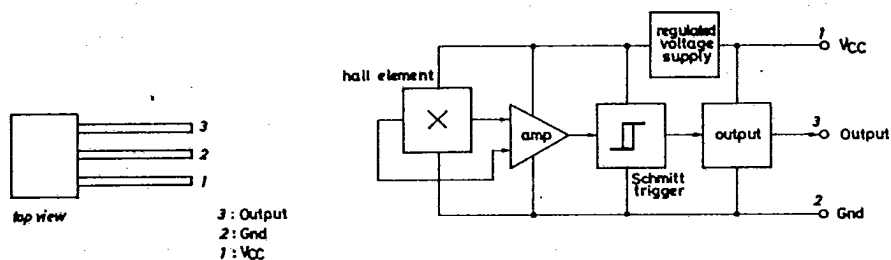
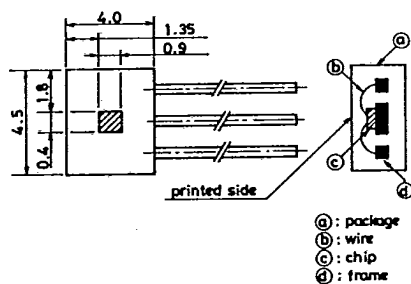


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LB9050

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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