No.3185A

LB9052

Monolithic Digital IC

Switching Type Hall IC

The LB9052 is a Hall IC that is operated in the presence of an alternating magnetic field and produces a digital output. The LB9052 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

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

Absolute Maximum Ratings at Ta = 25°C

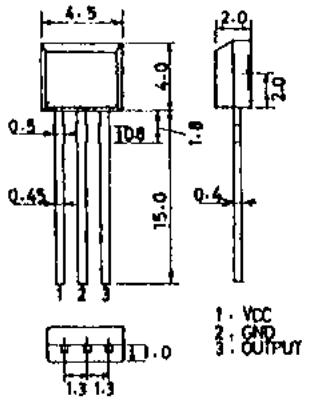
				unit
Maximum Supply Voltage	V_{CC} max		18	V
Maximum Supply Current	I_{CC} max		8	mA
Maximum Output Current	I_O max		20	mA
Allowable Power Dissipation	Pd max	Ta = 85°C	100	mW
Operating Temperature	Topg		−40 to +85	°C
Storage Temperature	Tstg		−55 to +125	°C

Allowable Operating Range at Ta = 25°C

			unit
Operating Voltage Range	V_{CC} op	3.6 to 16	V

The application circuit diagrams and circuit constants herein are included as an example and provide no guarantee for designing equipment to be mass-produced. The information herein is believed to be accurate and reliable. However, no responsibility is assumed by SANYO for its use, nor for any infringements of patents or other rights of third parties which may result from its use.

Case Outline 3105-S31C
(unit : mm)



Specifications and information herein are subject to change without notice.

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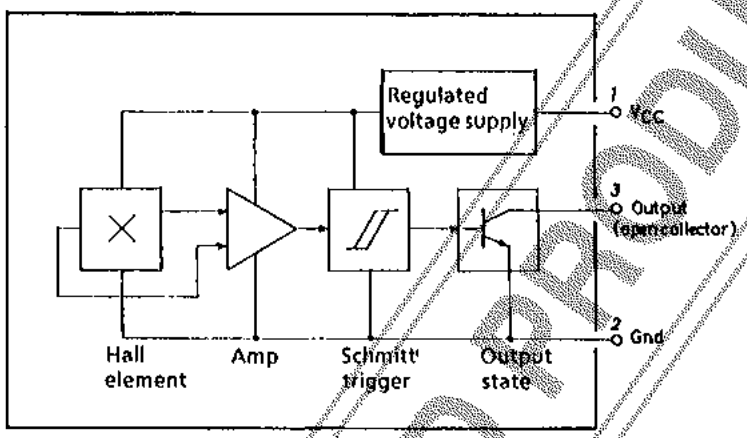
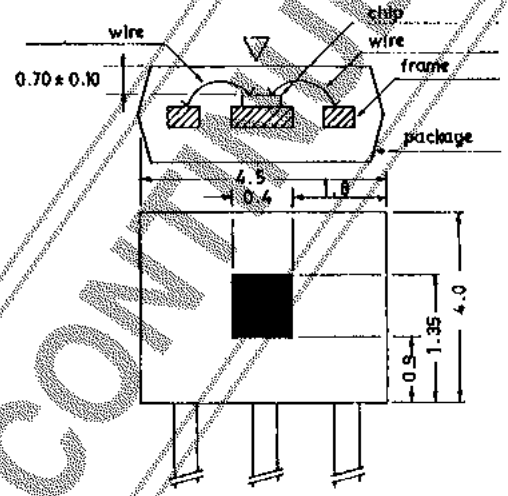
Electrical Characteristics at Ta = 25°C			min	typ	max	unit
Release Point	B_{LH}	V_{CC} = 12V, V_O : L→H	100			Gauss
Operate Point	B_{HL}	V_{CC} = 12V, V_O : H→L			600	Gauss
Output 'L'-Level Voltage	V_{OL1}	V_{CC} = 16V, I_O = 12mA, B = 600Gauss			0.4	V
	V_{OL2}	V_{CC} = 3.6V, I_O = 12mA, B = 600Gauss			0.4	V
Output Current	I_{OH}	V_{CC} = 3.6V to 16V, V_O = 18V, B = 600Gauss			10	μA
Supply Current	I_{CC1}	V_{CC} = 16V			6	mA
	I_{CC2}	V_{CC} = 3.6V			5.5	mA

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

Direction of applied magnetic field