

# DN6845S

Hall IC (Operating Supply Voltage Range  $V_{CC}=3.6$  to 16V, Operating in One Way Magnetic Field)

## Overview

The DN6845S is a semiconductor integrated circuit making use of Hall effects. It is designed particularly for operating at a low supply voltage in one way magnetic field. It is suitable for various sensors and contactless switches.

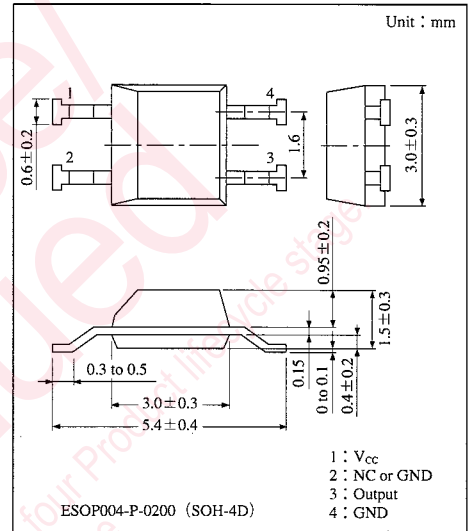
## Features

- Wide range of supply voltage : 3.6 to 16V
- Operating in one way magnetic field
- TTL and MOS ICs directly drivable by output
- Semipermanent service life because of contactless parts
- Drivable with a small magnet
- 4-pin PANAFLAT package (SOH-4D)
- Open collector

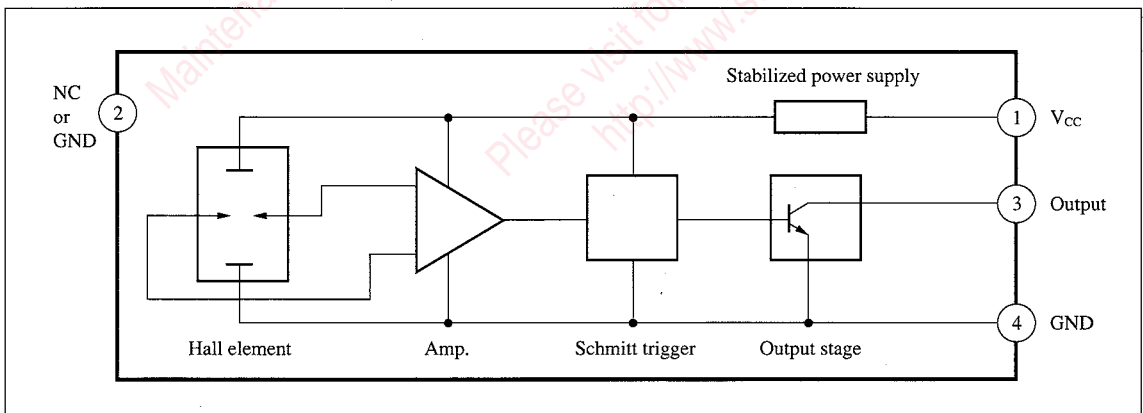
## Applications

- Speed sensors
- Position sensors
- Rotation sensors
- Keyboard switches
- Microswitches

Note) This IC is not suitable for car electrical equipment.



## Block Diagram



■ Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Supply voltage	V <sub>CC</sub>	18	V
Supply current	I <sub>CC</sub>	8	mA
Circuit current	I <sub>O</sub>	20	mA
Power dissipation	P <sub>D</sub>	100	mW
Operating ambient temperature	T <sub>opr</sub>	-40 to +85	°C
Storage temperature	T <sub>stg</sub>	-55 to +125	°C

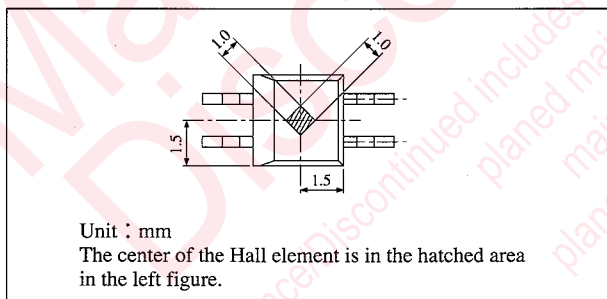
■ Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Condition	min	typ	max	Unit
Operating flux density	B <sub>1(L to H)</sub>	V <sub>CC</sub> =12V	10	—	—	mT
	B <sub>2(H to L)</sub>	V <sub>CC</sub> =12V	—	—	60	mT
Low output voltage	V <sub>OL</sub>	V <sub>CC</sub> =16V, I <sub>O</sub> =12mA, B=60mT	—	—	0.4	V
		V <sub>CC</sub> =3.6V, I <sub>O</sub> =12mA, B=60mT	—	—	0.4	V
High output current	I <sub>OH</sub>	V <sub>CC</sub> =16V, V <sub>O</sub> =18V, B=10mT	—	—	10	μA
		V <sub>CC</sub> =3.6V, V <sub>O</sub> =18V, B=10mT	—	—	10	μA
Supply current	I <sub>CC</sub>	V <sub>CC</sub> =16V	—	—	6	mA
		V <sub>CC</sub> =3.6V	—	—	5.5	mA

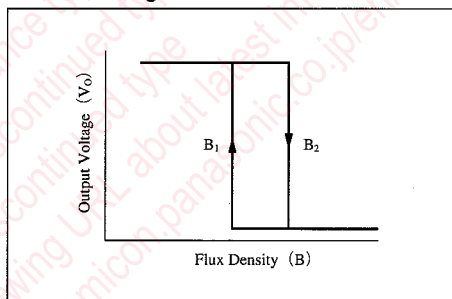
Note 1) Operating supply voltage range V<sub>CC(opr)</sub>=3.6 to 16V.

Note 2) For the operating flux density, B<sub>2(H→L)</sub> max 45mT is also available as Rank A.

■ Hall Element Position



■ Flux-Voltage Conversion Characteristics



■ Precaution on Use

1. Change of the operation magnetic flux density dose not depend on the supply voltage, because the stabilization power supply is built-in. (only for the range ; V<sub>CC</sub>=4.5 to 16V)
2. Change from "H" to "L" level increases the supply current by approx. 1mA.

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