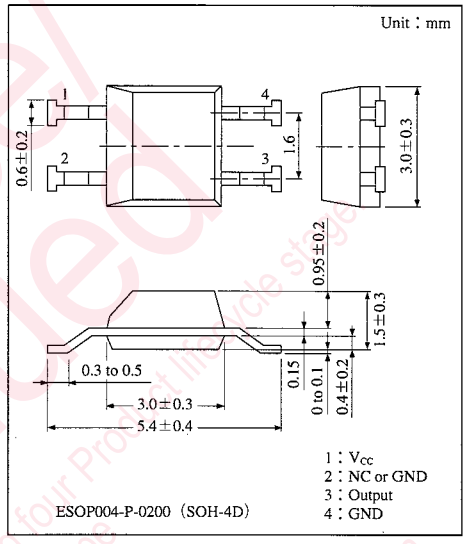
DN6845S

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

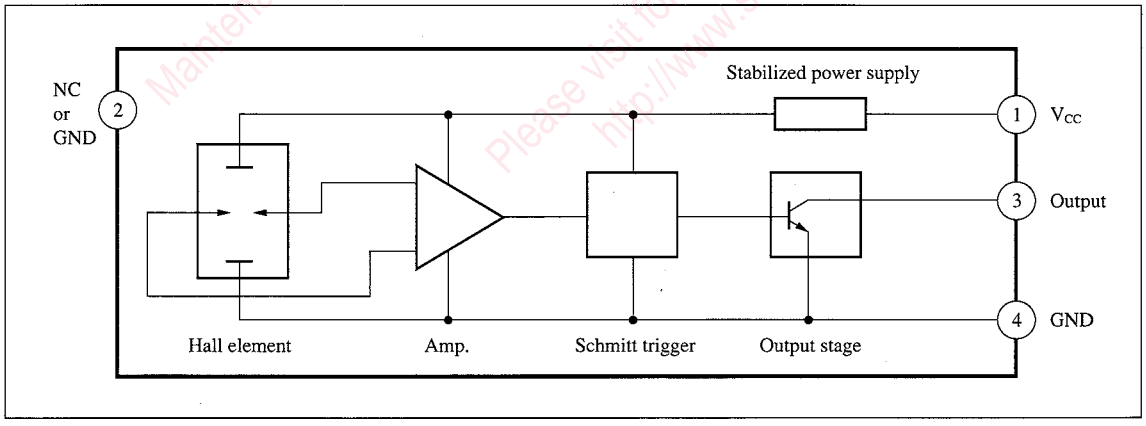
- Wide range of supply voltage : 3.6 to 16V
- Operating in one way magnetic field
- TTL and MOS ICs directly drivable by output
- Semipermanent service life because of contactless parts
- Drivable with a small magnet
- 4-pin PANAFLAT package (SOH-4D)
- Open collector

■ 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℃)

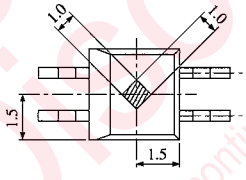
Parameter	Symbol	Rating	Unit
Supply voltage	V_{CC}	18	V
Supply current	I_{CC}	8	mA
Circuit current	I_O	20	mA
Power dissipation	P_D	100	mW
Operating ambient temperature	T_{opr}	−40 to +85	℃
Storage temperature	T_{stg}	−55 to +125	℃

■ Electrical Characteristics (Ta=25℃)

Parameter	Symbol	Condition	min	typ	max	Unit
Operating flux density	$B_{1(L\ to\ H)}$	V_{CC}=12V	10	—	—	mT
	$B_{2(H\ to\ L)}$	V_{CC}=12V	—	—	60	mT
Low output voltage	V_{OL}	V_{CC}=16V, I_O=12mA, B=60mT	—	—	0.4	V
		V_{CC}=3.6V, I_O=12mA, B=60mT	—	—	0.4	V
High output current	I_{OH}	V_{CC}=16V, V_O=18V, B=10mT	—	—	10	μA
		V_{CC}=3.6V, V_O=18V, B=10mT	—	—	10	μA
Supply current	I_{CC}	V_{CC}=16V	—	—	6	mA
		V_{CC}=3.6V	—	—	5.5	mA

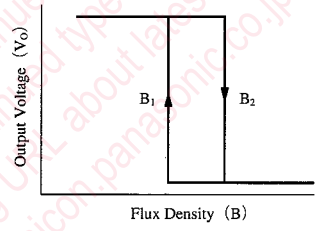
Note 1) Operating supply voltage range $V_{CC(opr)}$=3.6 to 16V.
Note 2) For the operating flux density, $B_{2(H\to L)}$ max 45mT is also available as Rank A.

■ Hall Element Position



Unit : mm
The center of the Hall element is in the hatched area in the left figure.

■ 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_{CC}=4.5 to 16V)
2. Change from "H" to "L" level increases the supply current by approx. 1mA.

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