

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.

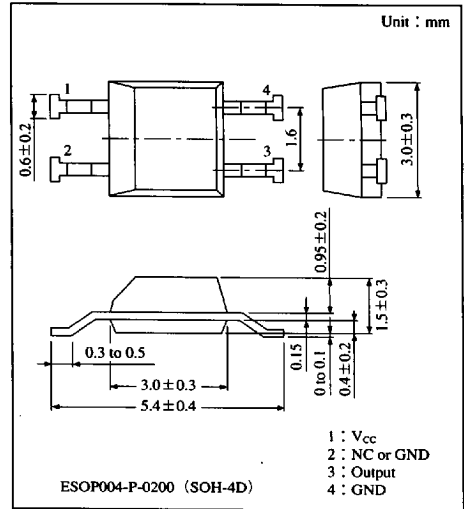
Features

- 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

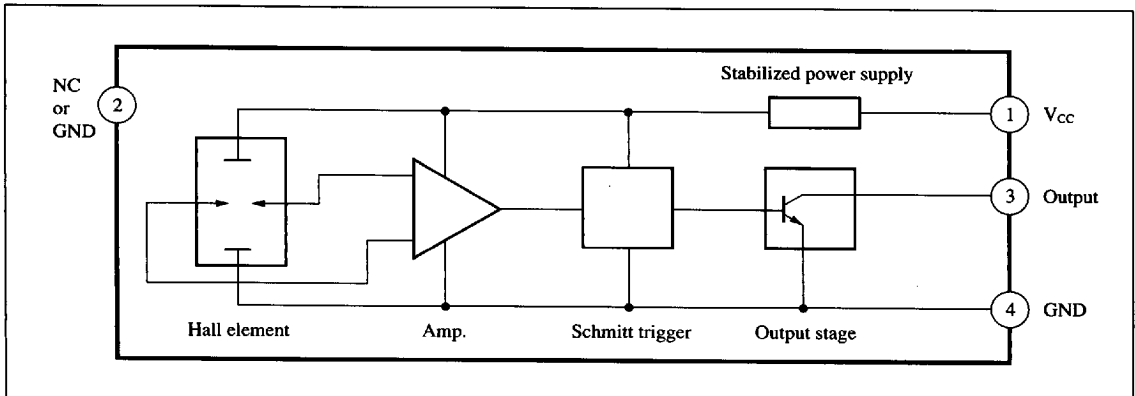
Applications

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

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



Block Diagram



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■ Absolute Maximum Ratings (Ta=25°C)

| 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 | °C |
| Storage temperature | T _{stg} | -55 to +125 | °C |

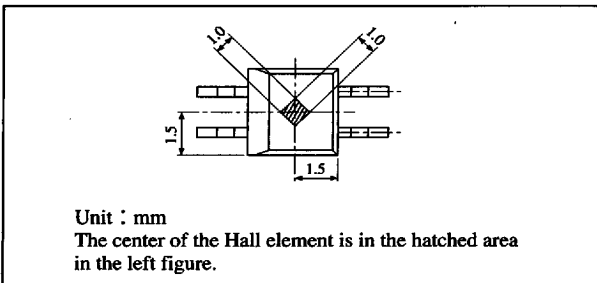
■ Electrical Characteristics (Ta=25°C)

| 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 |

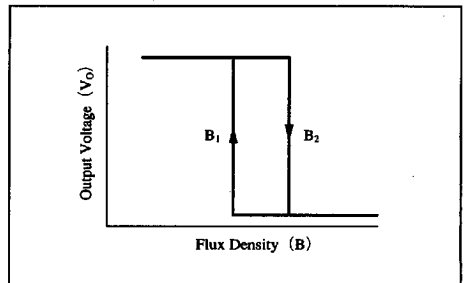
Note 1) Operating supply voltage range V_{CC(opr)}=3.6 to 16V.

Note 2) For the operating flux density, B_{2(H→L)} 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_{CC}=4.5 to 16V)
2. Change from "H" to "L" level increases the supply current by approx. 1mA.

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