

CYSJ1069 GaAs HALL-EFFECT ELEMENTS

CYSJ series Hall-effect element is a ion-implanted magnetic field sensor made of mono-crystal gallium arsenide (GaAs) semiconductor material group III-V using ion-implanted technology. It can convert a magnetic flux density signal linearly into voltage output.

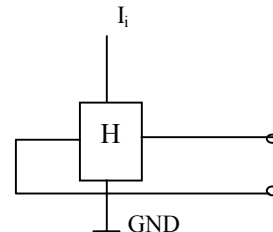
FEATURES

- High Linearity
- Superior Temperature Stability
- Miniature Package

TYPICAL APPLICATION

- Magnetic Field Measurement
- DC Brushless Motor
- Current Sensor
- Non-contact Switch
- Position Control
- Detection Of Revolution

BLOCK DIAGRAM



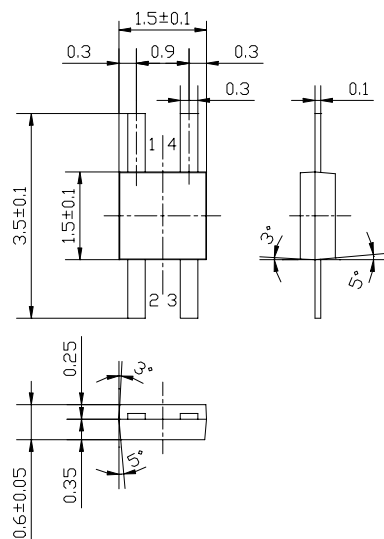
ABSOLUTE MAXIMUM RATING

| Parameter | Symbol | Value | Unit |
|-----------------------------|--------|---------|------|
| Max. Input current | I_i | 10 | mA |
| Operating temperature range | T_A | -55~125 | °C |
| Storage temperature range | T_S | -55~150 | °C |

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$)

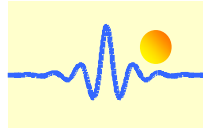
| Parameter | Symbol | Test condition | Value | Unit |
|--------------------------------------------------------|-----------------|----------------------------------------|----------|----------|
| Hall output voltage | V_H | $B=100\text{mT } I_i=5\text{mA}$ | 100~120 | mV |
| Offset voltage | V_o/V_H | $I_i=5\text{mA } B=0/B=100\text{mT}$ | <5 | % |
| Input resistance | R_i | $B=0\text{mT } I_i=0.1\text{mA}$ | 450~750 | Ω |
| Output resistance | R_o | $B=0\text{mT } I_i=0.1\text{mA}$ | 750~1400 | Ω |
| Temperature coefficient of hall output voltage | αV_H | $I_i=5\text{mA } B=100\text{mT}$ | -0.06 | %/°C |
| Temperature coefficient of input and output resistance | α_i, V_o | $I_i=1\text{mA } B=0\text{mT}$ | 0.3 | %/°C |
| Linearity | ΔK_H | $I_i=5\text{mA } B=0\sim 300\text{mT}$ | 2 | % |

Package Outline Drawing (Unit: mm)



PIN NOTE

- 1.3 INPUT
- 2.4 OUTPUT



Characteristics Curves

