

CYSJ119 GaAs HALL-EFFECT ELEMENTS

CYSJ series Hall-effect element is an 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.

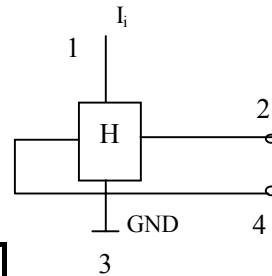
FEATURES

- 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



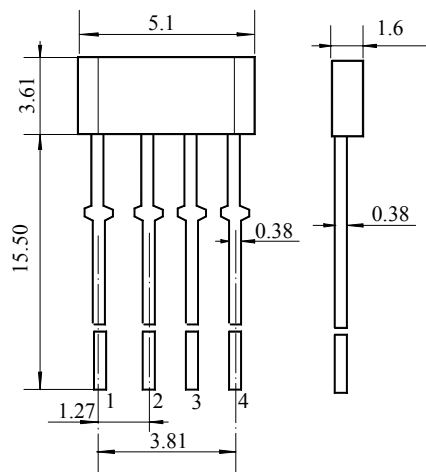
ABSOLUTE MAXIMUM RATING

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

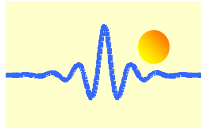
ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$)

Parameter	Symbol	Test conditions	Value	Unit
Hall output voltage	V_H	$B=100\text{mT}$ $I_i=5\text{mA}$	120~150	mV
Offset voltage	V_o/V_H	$I_i=5\text{mA}$ $B=0/B=100\text{mT}$	≤ 12	%
Input resistance	R_i	$I_i=1\text{mA}$	900~1100	Ω
Output resistance	R_o	$I_i=1\text{mA}$	1800~2200	Ω
Temperature coefficient of hall output voltage	αV_H	$I_i=5\text{mA}$ $B=100\text{mT}$	-0.07	%/°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
1 (+), 3(-): INPUT
2 (+), 4(-): OUTPUT



Characteristics Curves

