ChenYang
Technologies GmbH & Co. KG

CYTY SERIES (InSb) HALL-EFFECT ELEMENTS

CYTY series Hall-effect elements are made of compound semiconductor material indium stibnite (InSb), which utilizes the Hall Effect principle. It can convert a magnetic flux density signal linearly into voltage output.

FEATURES

- High Magnetic Sensitivity
- Low Offset Voltage
- Miniature Package

TYPICAL APPLICATION

- Magnetic Field Measurement
- Current Sensor
- Detection of Speed
- DC Brushless Motor
- Position Control

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Input Current	Ii	20 (T_A=40°C)	mA
Input Voltage	Vi	2 (T_A=40°C)	V
Operating Temperature Range	T_A	-40～110	°C
Storage Temperature Range	T_S	-40～120	°C

Hall Output Voltage VH (mV)

Label	Hall Output Voltage
Q	45～60
R	55～75
D	195～230
E	225～275
F	270～320
G	315～370

ELECTRICAL CHARACTERISTICS (T_A=25°C)

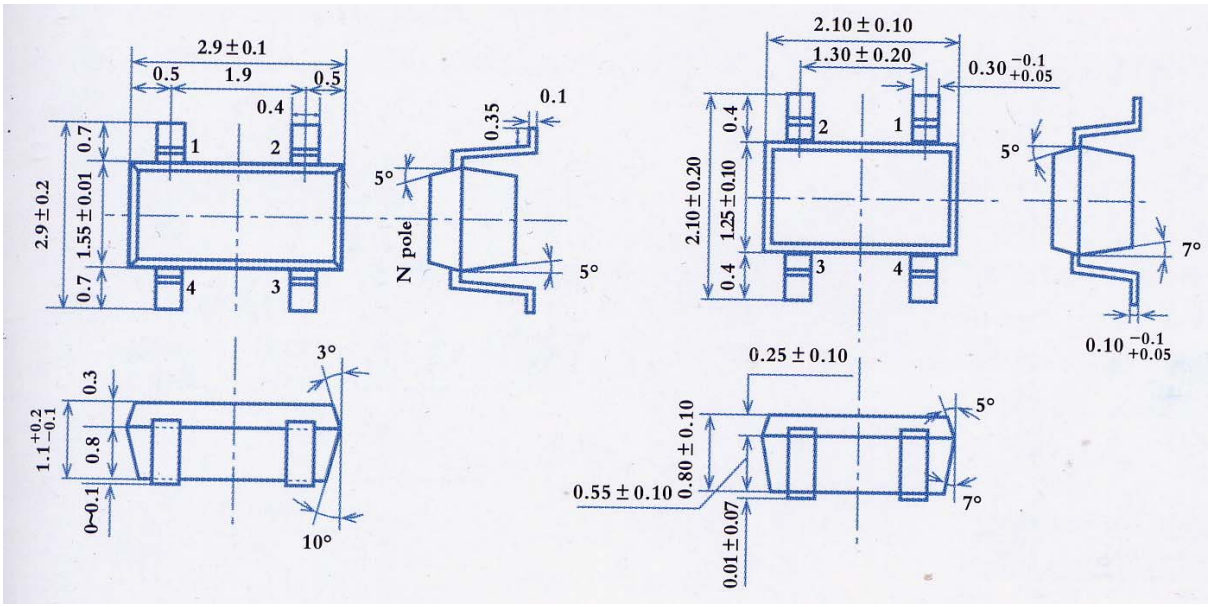
Parameter	Symbol	Test Condition	Type and Value				
				CYTY211	CYTY108A	CYTY320	CYTY300B-CS
Hall output voltage	V_H (mV)	Constant voltage driven, Vi=1V B=50mT	Min	45	195	195	195
			Max	75	370	370	370
Offset voltage	Vo (mV)	B=0 Vi=1V	Min	-7	-7	-7	-7
			Max	+7	+7	+7	+7
Input resistance	Ri(Ω)	B=0 Ii=0.1mA	Min	240	240	240	240
			Max	550	550	550	550
Output resistance	Ro(Ω)	B=0 Ii=0.1mA	Min	240	240	240	240
			Max	550	550	550	550
Output voltage temperature coefficient	αV_H (%/°C)	B=50mT Ii=5mA	Max	-2	-2	-2	-2
Input, Output resistance temperature coefficient	αRi (%/°C)	B=0 Ii=0.1mA					
Isolation resistance	(MΩ)	100V DC		>1.0	>1.0	>1.0	>1.0

Note: 1. The Hall output voltage V_H =the effective voltage-V_0
2. The types are different according to the Hall output voltage V_H (mV)

Markt Schwabener Str. 8
D-85464 Finsing
Germany

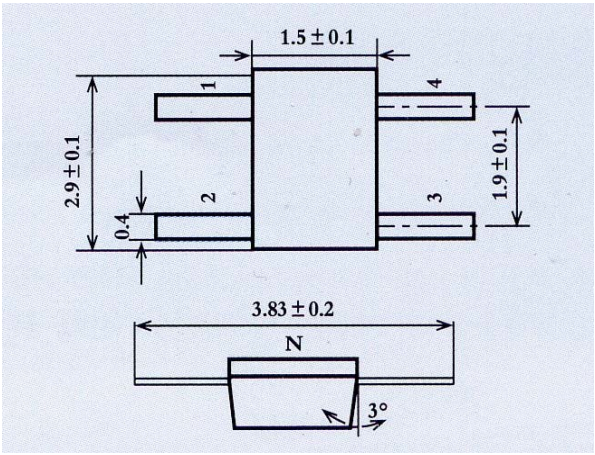
Tel.: +49 (0)8121 – 2574100
Fax: +49 (0)8121– 2574101
Email: info@cy-sensors.com
http://www.cy-sensors.com

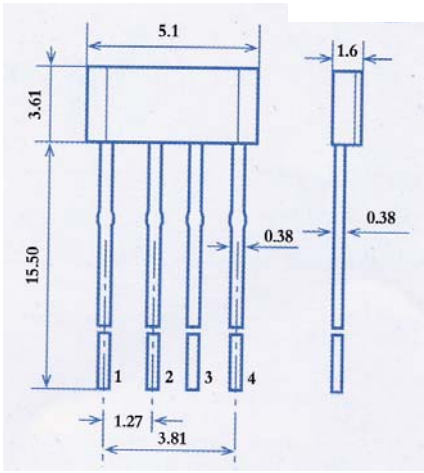
Package Outline Drawing (Unit: mm)



CYTY211 (SOT-143)
2, 4: Input; 1, 3: Output

CYTY108A
1, 3: Input; 2, 4: Output





CYTY320 (SOT-143-1)
1, 3: Input; 2, 4: Output

CYTY300B-CS
1, 3: Input; 2, 4: Output

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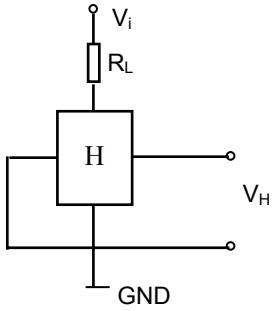
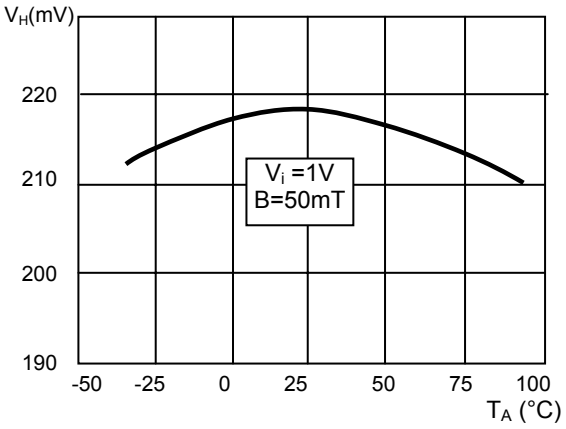
FUNCTIONAL BLOCK DIAGRAM

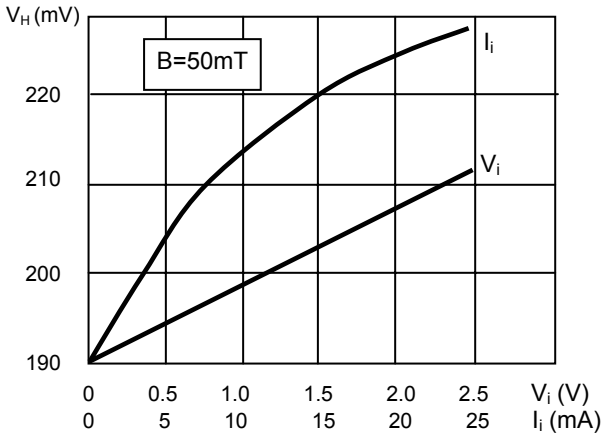


CHARACTERISTICS CURVES

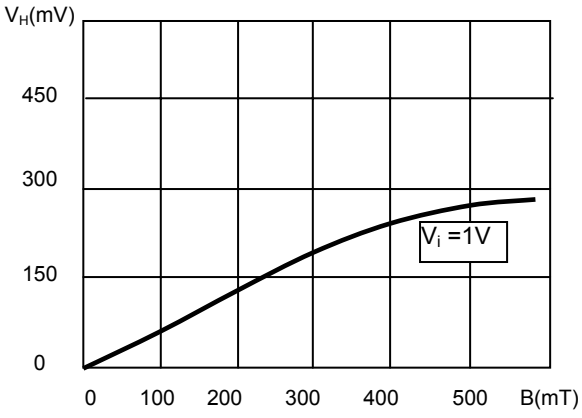
V_H ~T_A (CYTY320, CYTY108A, CYTY300B-CS)



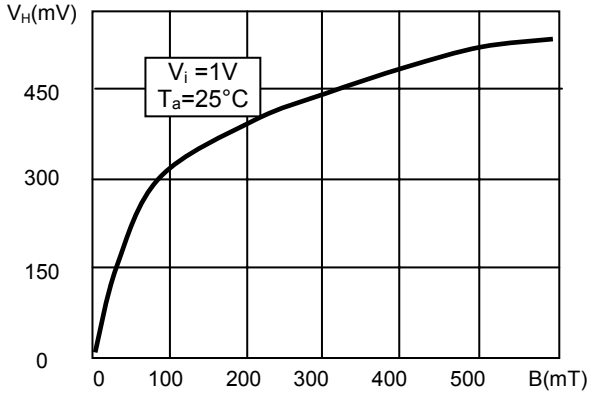
V_H ~V_i, I_i (CYTY320, CYTY108A, CYTY300B-CS)



V_H~B (CYTY211)



V_H~B (CYTY320, CYTY300B-CS)



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