OH015

GaAs Hall Element

Magnetic Sensor

■ Features

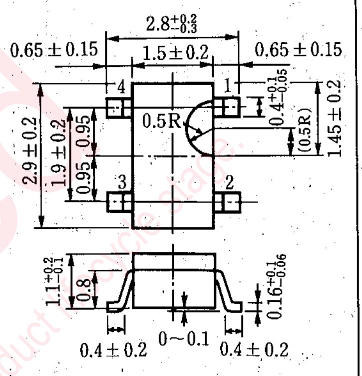
- Hall voltage: typ. 260mV (V_C=6V, B=1kG)
- Input resistance: typ. 0.75kG
- Good linearity of Hall voltage to magnetic field
- Small temperature coefficient of Hall Voltage: $\beta = -0.06\%/°C$ (typ.)
- Being packed in Mini type package (4-pin), automatic insertion using taping and magazine packaging is possible

■ Applications

- Various Hall motors (VTR, Player, VD, CD, FDD etc.)
- Automobile apparatus
- Industrial apparatus
- Measuring apparatus
- Wide application (OA apparatus etc.) is possible.

■ Package Dimensions

Unit: mm



1 : V_H Output ⊖ side
2 : V_C Input ⊖ side
3 : V_H Output ⊕ side
4 : V_C Input ⊕ side

MINI Type Package (4-pin)

Making Symbol : OV

■ Absolute Maximum Ratings (Ta=25°C)

Item	Smbol	Value	Unit
Control Voltage	V_C	8	V
Power Dissipation	P_D	150	mW
Operating Ambient Temperature	T_{opr}	−55~+125	°C
Storage Temperature	T_{stg}	−55~+125	°C

■ Electrical Characteristics (Ta=25°C)

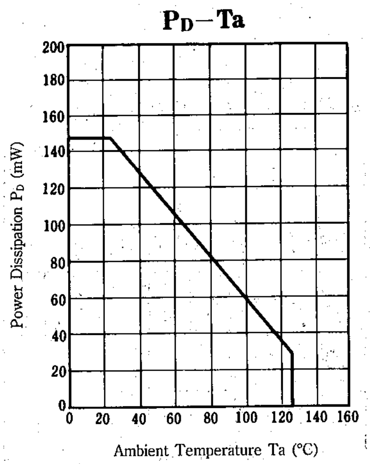
Item	Symbol	Condition	min.	typ.	max.	Unit
Hall Voltage	V_H*1	V_C=6 V, B=1 kG	220	260	300	mV
Unequilibrium Voltage	V_{HO}*2	V_C=6 V, B=0			±15	mV
Input Resistance	R_{IN}	I_C=0.1 mA, B=0	0.5	0.75	1.0	kΩ
Output Resistance	R_{OUT}	I_C=0.1 mA, B=0	3	4.5	6	kΩ
Temperature Coefficient of Hall Voltage	β	I_C=6 mA, B=1 kG		−0.06		%/°C
Temperature Coefficient of Input Resistance	α	I_C=0.1 mA, B=0			0.3	%/°C
Linearity of Hall Voltage	γ*3	I_C=6 mA, B=0.5 kG/1 kG			2	%

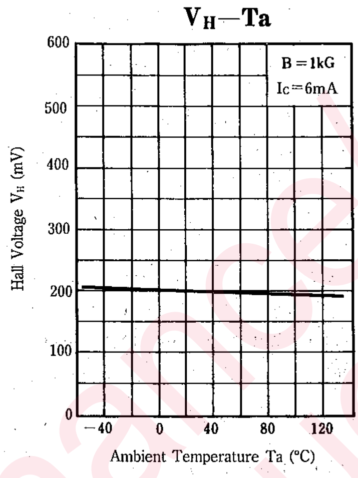
*1 $V_H = \frac{|V_H^+| + |V_H^-|}{2}$

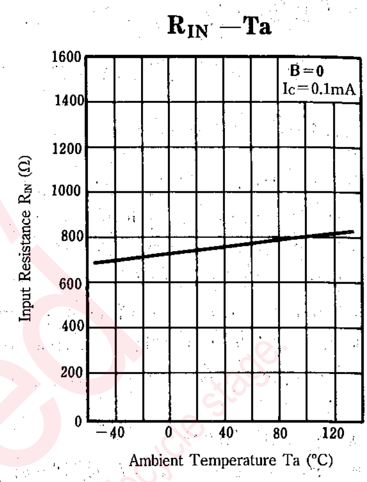
*2 Output End Voltage at the no-load, B=0

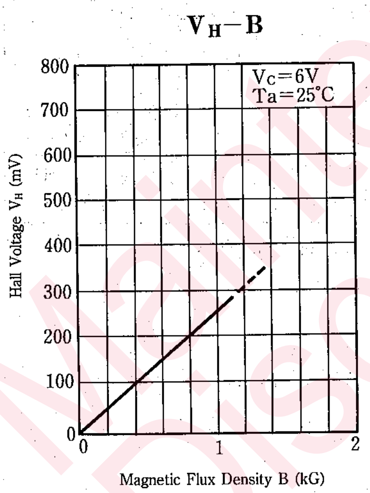
*3 Lineality γ of V_H is percentage to mean value of differcence between kH, and kHz which are accumulated sensibility measured by

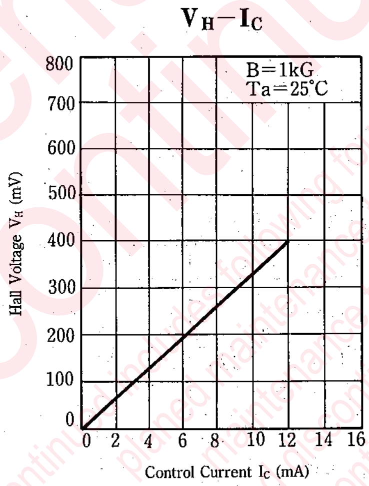
$$\gamma = \frac{K_{H1} - K_{H0.5}}{1/2\,(K_{H0.5} + K_{H1})} \text{ (accumulated sensibility } K_H = \frac{V_H}{I_C \cdot B}\text{)}$$

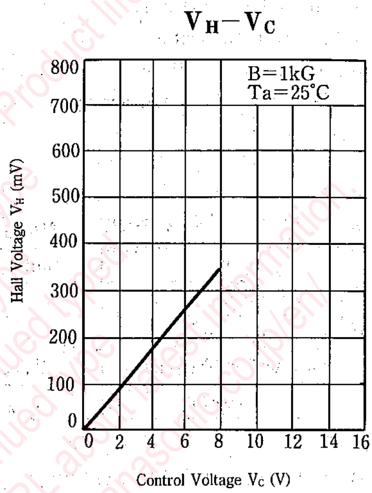




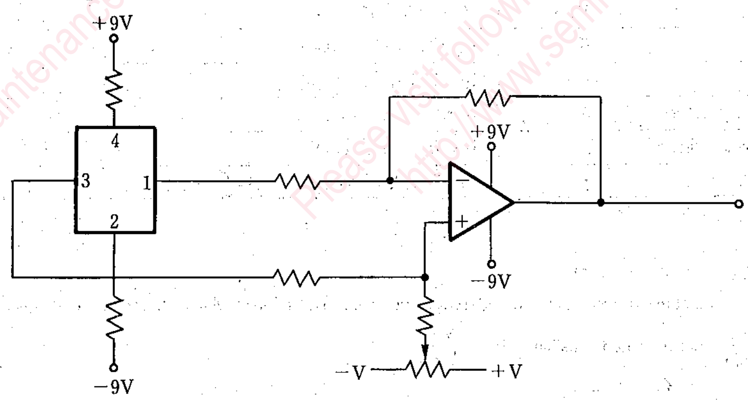








■ Drive Circuit (Ex.)



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