

OH025

GaAs Hall Element

Magnetic Sensor

■ Features

- Hall voltage: typ. 90mV ($V_C=3V$, $B=1kG$)
- Input resistance: typ. 0.8k Ω (min. 0.5k Ω)
- Output resistance: max. 6k Ω
- Being packed in Mini type package (4-pin), automatic insertion using taping and magazine packaging is possible

■ Applications

- Various Hall motors (Suitable for portable type apparatus, CD, VD, VTR, FDD etc.)
- Wide application (OA apparatus etc.) is possible

■ Absolute Maximum Ratings ($T_a=25^\circ C$)

Item	Symbol	Value	Unit
Control Voltage	V_C	6	V
Power Dissipation	P_D	100	mW
Operating Ambient Temperature	T_{opr}	-55 ~ +125	$^\circ C$
Storage Temperature	T_{stg}	-55 ~ +125	$^\circ C$

■ Electrical Characteristics ($T_a=25^\circ C$)

Item	Symbol	Condition	min.	typ.	max.	Unit
Hall Voltage	V_H^{*1}	$V_C=3V$, $B=1kG$		90	105	mV
Unequilibrium Voltage	$V_{HO}^{*2,4}$	$V_C=3V$, $B=0$			± 9.5	mV
Input Resistance	R_{IN}	$I_C=0.1mA$, $B=0$	0.5	0.8	1	k Ω
Output Resistance	R_{OUT}	$I_C=0.1mA$, $B=0$	3		6	k Ω
Temperature Coefficient of Hall Voltage	β	$I_C=6mA$, $B=1kG$			-0.06	%/ $^\circ C$
Temperature Coefficient of Input Resistance	α	$I_C=0.1mA$, $B=0$			0.3	%/ $^\circ C$
Linearity of Hall Voltage	γ^{*3}	$I_C=6mA$, $B=0.5kG/1kG$			2	%

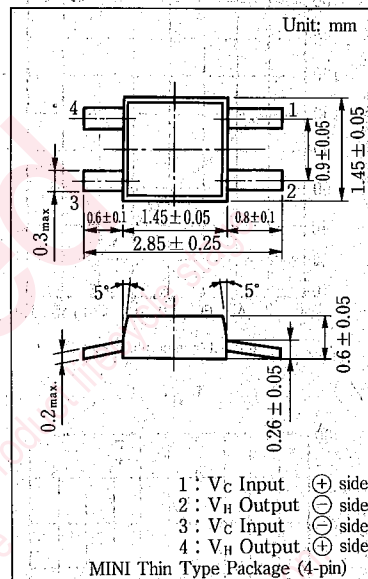
$$*1 V_H = \frac{|V_H^+| + |V_H^-|}{2}$$

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

*3 Linearity γ of V_H is percentage to mean value of difference between k_H , and k_Hz which are accumulated sensibility measured by

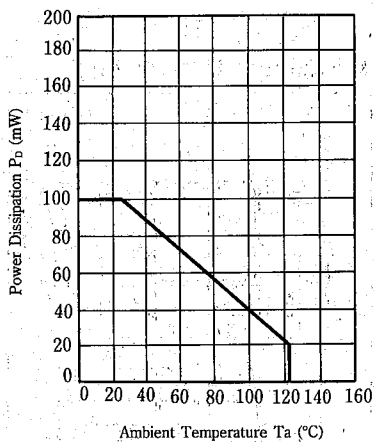
$$\gamma = \frac{K_{H1} - K_{H0.5}}{-1/2(K_{H0.5} + K_{H1})} \quad (\text{accumulated sensibility } K_H = \frac{V_H}{I_C \cdot B})$$

■ Package Dimensions

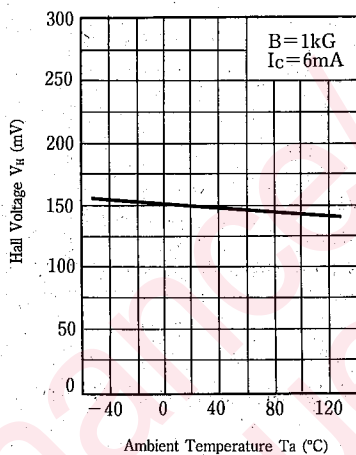


Marking Symbol : F

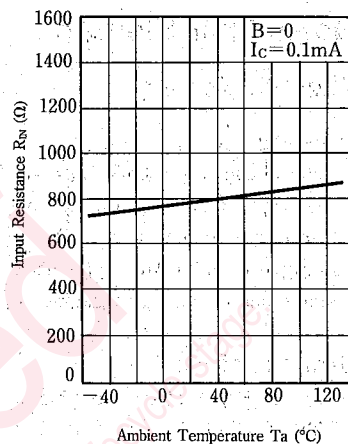
$P_D - T_a$



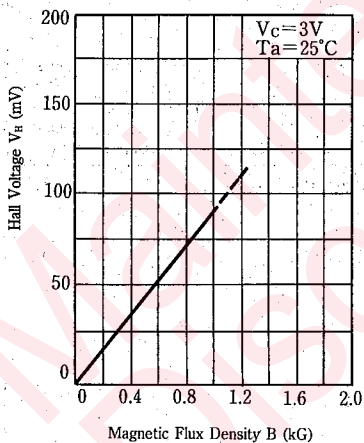
$V_H - T_a$



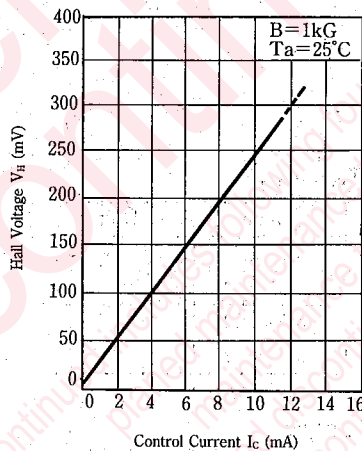
$R_{IN} - T_a$



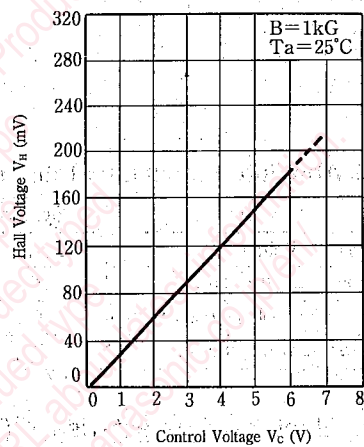
$V_H - B$



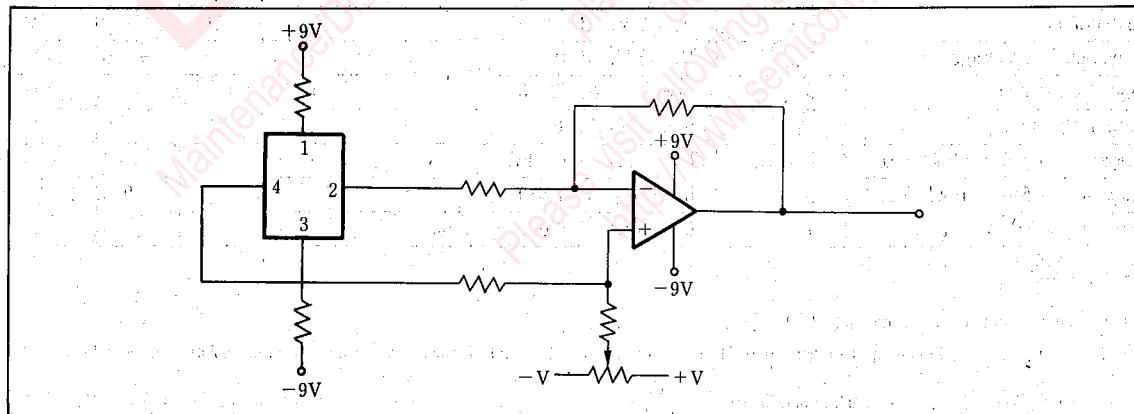
$V_H - I_c$



$V_H - V_c$



■ Drive Circuit (Ex.)



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