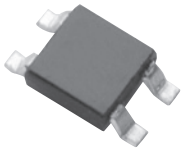
GaAs Hall Element

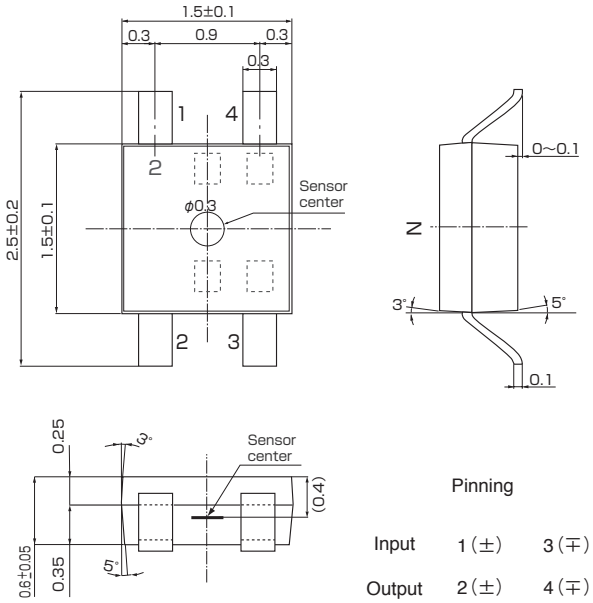
● Absolute Maximum Ratings

Item	Symbol	Conditions	Limit	Unit
Max. Input Voltage	V_C	Ta=25℃	8	V
Max.Input Power	P_D		150	mW
Operating Temp. Range	Topr		−40 ~ +125	℃
Storage Temp. Range	T_{STG}		−40 ~ +130	℃

SSOT-4



● Dimensional Drawing (Unit : mm)



Pinning

Input	1 (±)	3 (∓)
Output	2 (±)	4 (∓)

● Electrical Characteristics(Ta=25℃)

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Output Hall Voltage	V_H ※	B=50mT, V_C=6V	55		75	mV
Input Resistance	Rin	B=0mT, I_C=0.1mA	650		850	Ω
Output Resistance	Rout	B=0mT, I_C=0.1mA	650		850	Ω
Offset Voltage	V_{OS}(Vu)	B=0mT, V_C=6V	−11		+11	mV
Temp. Coefficient of V_H	αV_H ※	B=50mT, I_C=5mA Ta=25~125℃			−0.06	%/℃
Temp. Coefficient of R_{IN}	αRin ※	B=0mT, I_C=0.1mA Ta=25~125℃			0.3	%/℃
Linearity	ΔK ※	B=0.1/0.5T, I_C=5mA			2	%

Notes : 1. V_H = VHM −V_{OS} (Vu) (VHM:meter indication)

2. $\alpha V_H = \frac{1}{V_H(T_1)} \times \frac{V_H(T_2) - V_H(T_1)}{(T_2 - T_1)} \times 100$

3. $\alpha Rin = \frac{1}{Rin(T_1)} \times \frac{Rin(T_2) - Rin(T_1)}{(T_2 - T_1)} \times 100$

4. $\Delta K = \frac{K(B_1) - K(B_2)}{[K(B_1) + K(B_2)] / 2} \times 100$

T_1 = 25˚C, T_2 = 125˚C

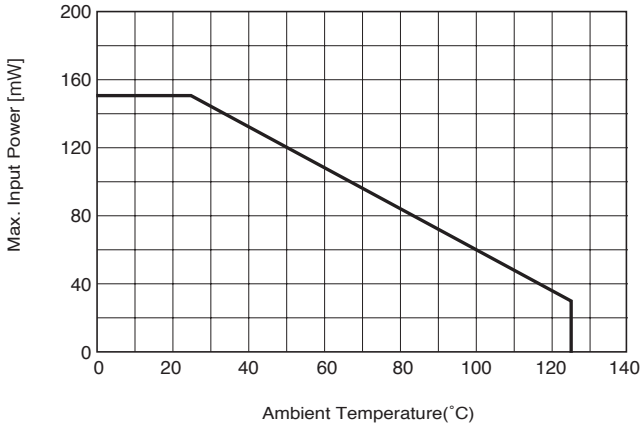
$K = \frac{V_H}{I_C \cdot B}$

B_1 = 0.5T, B_2 = 0.1T

● Taping

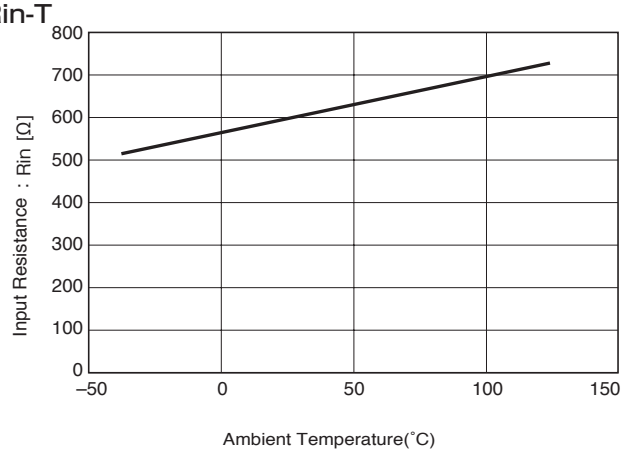
● Characteristic Curves

Allowable Package Power Dissipation

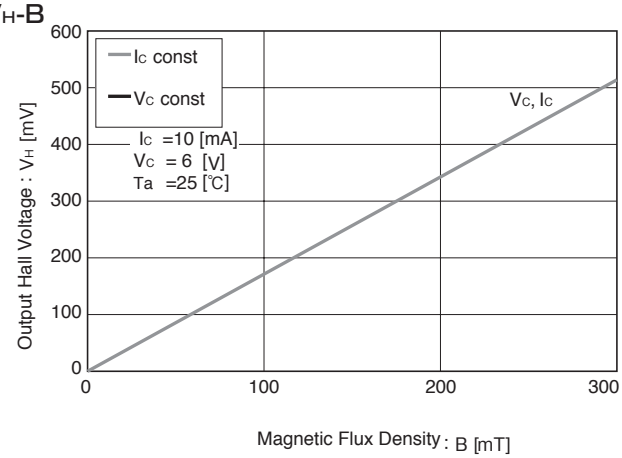


● Characteristic Curves

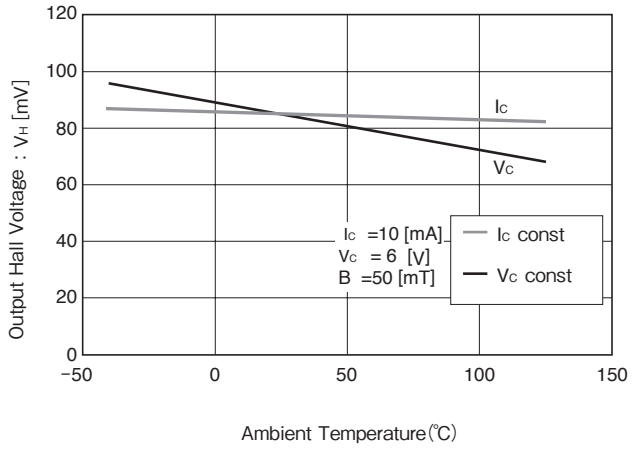
Rin-T



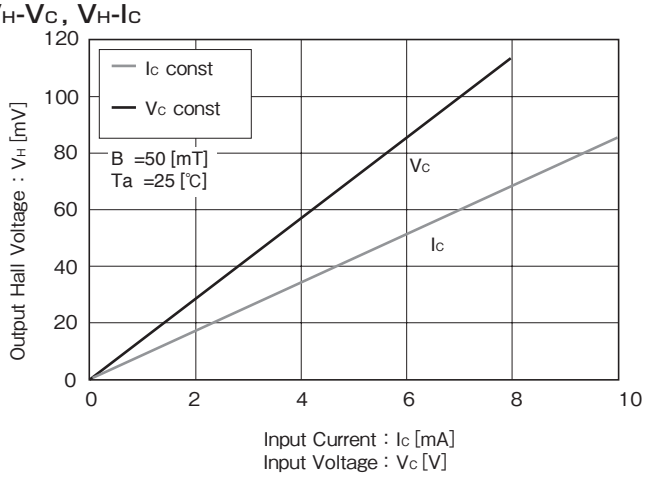
VH-B



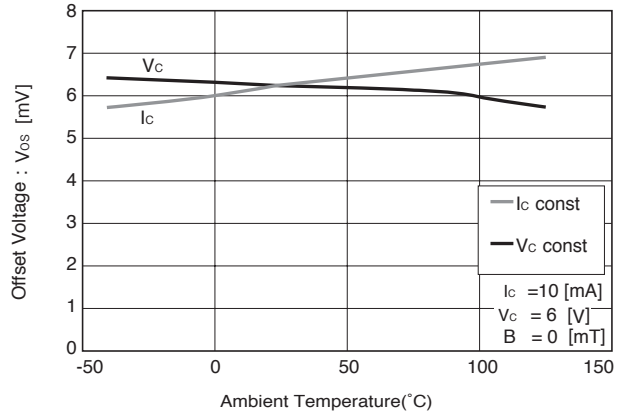
VH-T



VH-Vc, VH-Ic

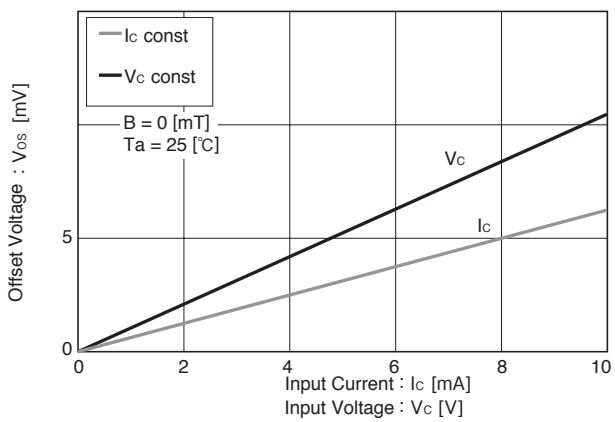


VOS (Vu)-T



※Magnetic Flux Density
1[mT]=10 [G]

VOS (Vu)-Vc, VOS (Vu)-Ic



Rin=750〔Ω〕、VOS=0.6〔mV〕〔Vc=6〔V〕
In This Example : Rin=750〔Ω〕, VOS=0.6〔mV〕, 〔Vc=6〔V〕〕