GaAs Hall Element

● Absolute Maximum Ratings

Item	Symbol	Conditions	Limit	Unit
Max. Input Voltage	V_C	Ta=25℃	5	V
Max.Input Power	P_D		25	mW
Operating Temp. Range	Topr		$-40 \sim +125$	℃
Storage Temp. Range	T_{STG}		$-45 \sim +150$	℃

● Electrical Characteristics(Ta=25℃)

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Output Hall Voltage	V_H※	B=50mT, I_C=5mA	36	45	54	mV
Input Resistance	Rin	B=0mT, I_C=0.1mA	650	750	850	Ω
Output Resistance	R_{OUT}	B=0mT, I_C=0.1mA	650	750	850	Ω
Offset Voltage	V_{OS}(Vu)	B=0mT, I_C=5mA	-5		$+5$	mV
Temp. Coefficient of V_H	αV_H※	B=50mT, I_C=5mA Ta=25~125℃			0.06	%/℃
Temp. Coefficient of Rin	αRin※	B=0mT, I_C=0.1mA Ta=25~125℃			0.3	%/℃
Linearity	ΔK※	B=0.1/0.5T, I_C=5mA	-1		+1	%

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

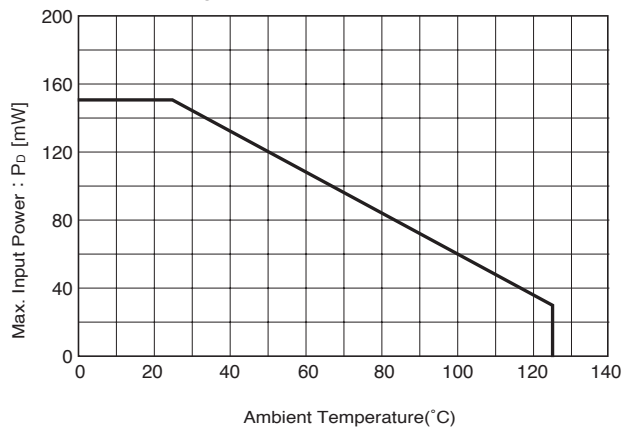4. $\Delta K = \frac{K (B_1) - K (B_2)}{[K (B_1) + K (B_2)] / 2} \times 100$

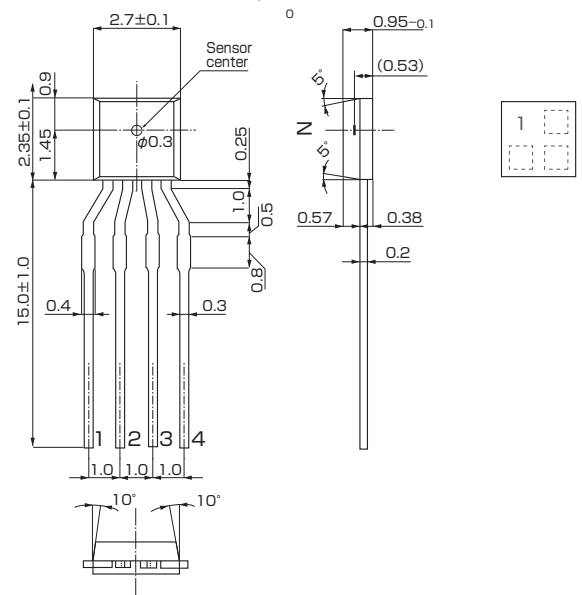$T_1 = 25°C, T_2 = 125°C$

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

$B_1 = 0.5T, B_2 = 0.1T$

● **Characteristic Curves**

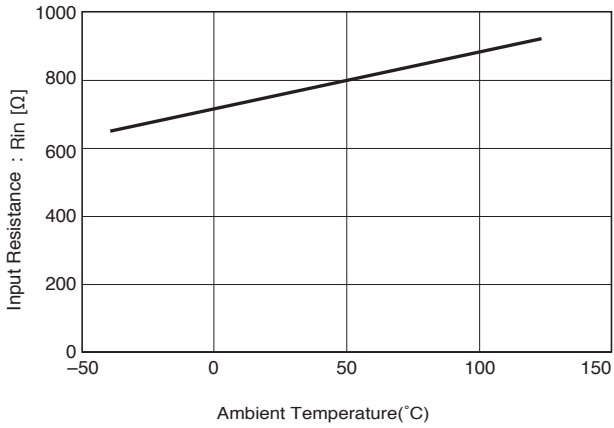Allowable Package Power Dissipation

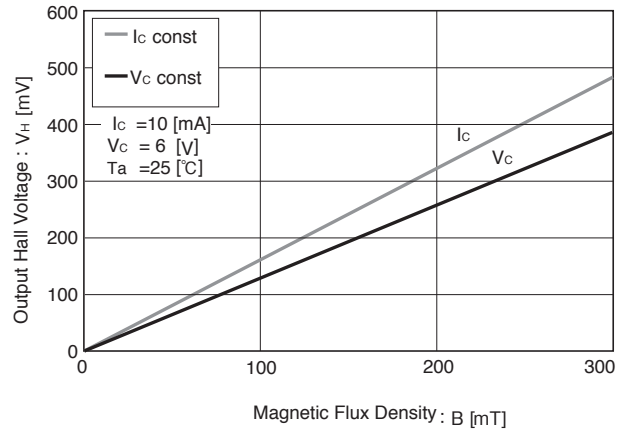● Dimensional Drawing (Unit : mm)

Pinning

1 (+) - 3 (-) （Input）

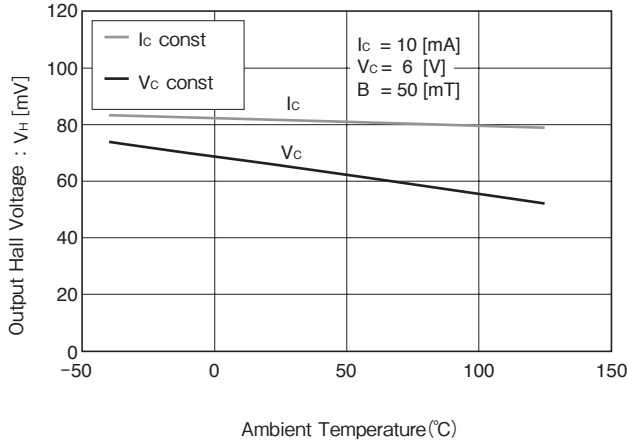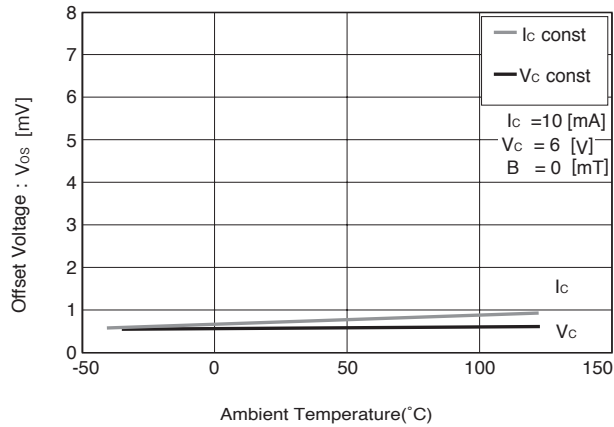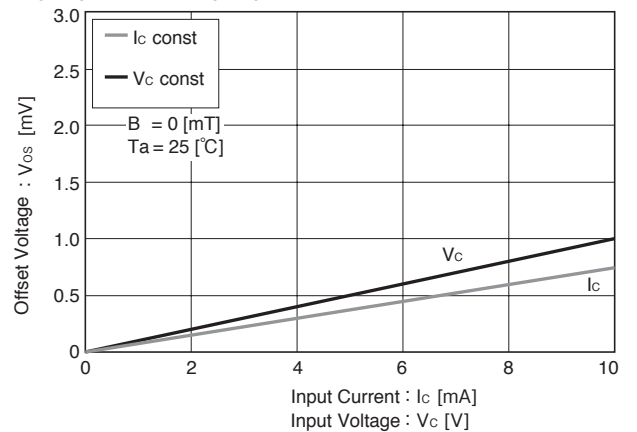2 (+) - 4 (-) （Output）

● **Characteristic Curves**

Rin-T

VH-B

VH-T

VH-VC , VH-IC
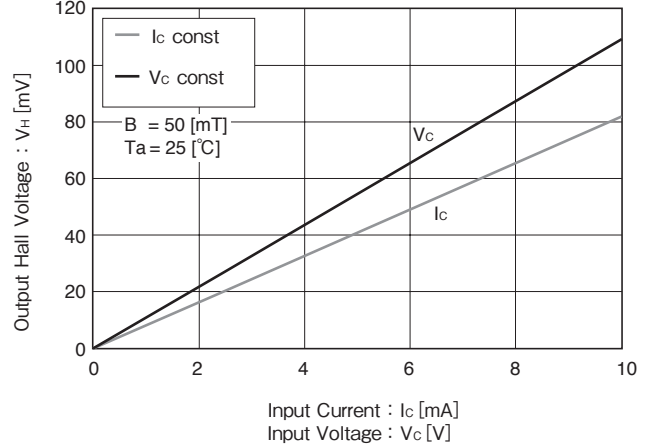
VOS (Vu)-T

VOS (Vu)-VC , VOS (Vu)-IC

※Magnetic Flux Density
  1[mT]=10 [G]

Rin = 750 (Ω) 、VOS = 0.6 (mV) [VC=6 (V)]
In This Example : Rin=750 (Ω) , VOS =0.6 (mV) , [VC =6 (V)]