

# YY-119

Shipped in bulk ( 500pcs per pack, DIP-4 )

Shipped in packet-tape reel(4,000pcs per reel, SOT-143)

Notice : It is requested to read and accept "IMPORTANT NOTICE" written on the back of the front cover of this catalogue.

## ●Absolute Maximum Ratings

Item	Symbol	Limit	Unit
Max. Input Voltage	$V_C$	10	V
Max. Input Power	$P_D$	150	mW
Operating Temp. Range	Topr.	-40 ~ +125	°C
Storage Temp. Range	Tstg.	-40 ~ +150	°C

## ●Electrical Characteristics( $T_a=25^\circ\text{C}$ )

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Output Hall Voltage	$V_H^{**}$	B=50mT, $V_C=6\text{V}$	55		75	mV
Input Resistance	$R_{in}$	B=0mT, $I_C=0.1\text{mA}$	650		850	$\Omega$
Output Resistance	$R_{out}$	B=0mT, $I_C=0.1\text{mA}$	650		850	$\Omega$
Offset Voltage	$V_{os}(V_H)$	B=0mT, $V_C=6\text{V}$	-11		+11	mV
Temp. Coefficient of $V_H$	$\alpha V_H^{**}$	B=50mT, $I_C=5\text{mA}$ $T_a=25\sim 125^\circ\text{C}$			-0.06	%/°C
Temp. Coefficient of $R_{in}$	$\alpha R_{in}^{**}$	B=0mT, $I_C=0.1\text{mA}$ $T_a=25\sim 125^\circ\text{C}$			0.3	%/°C
Linearity	$\Delta K^{**}$	B=0.1/0.5T, $I_C=5\text{mA}$			2	%

Notes : 1.  $V_H = V_{HM} - V_{os}(V_H)$  ( $V_{HM}$ :meter indication)

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

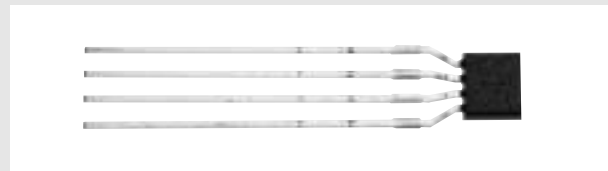
$$3. \alpha R_{in} = \frac{1}{R_{in}(T_1)} \times \frac{R_{in}(T_2) - R_{in}(T_1)}{(T_2 - T_1)} \times 100$$

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

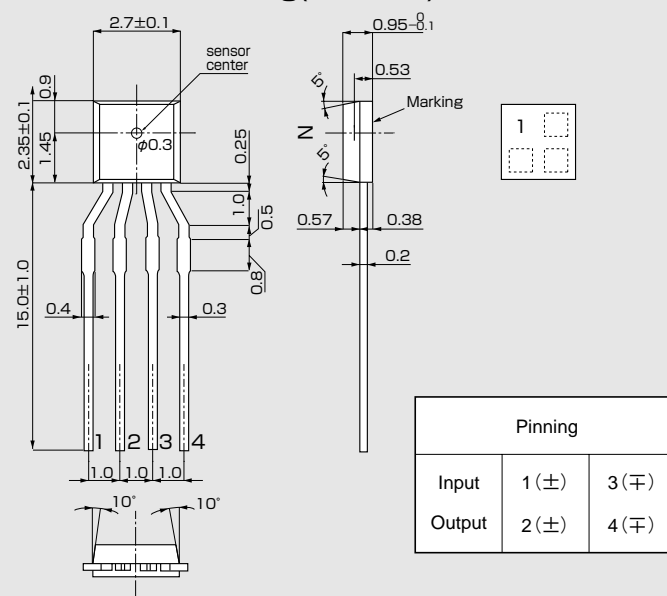
$$T_1 = 25^\circ\text{C}, T_2 = 125^\circ\text{C}$$

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

$$B_1 = 0.5\text{T}, B_2 = 0.1\text{T}$$

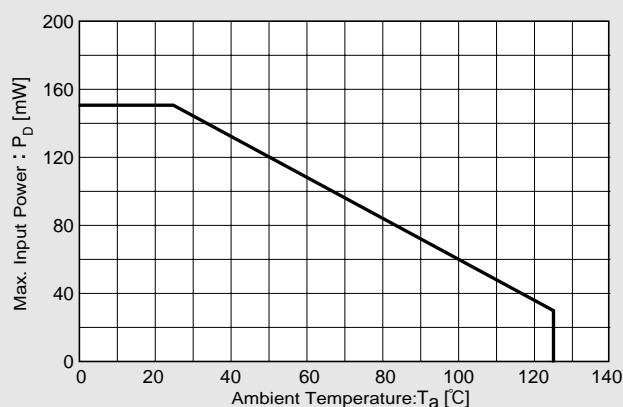


## ●Dimensional Drawing(Unit : mm)



## ●Characteristic Curves

### Allowable Package Power Dissipation



# YY-119

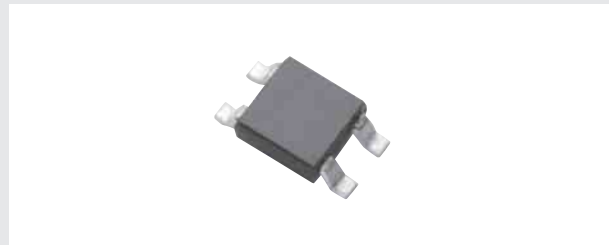
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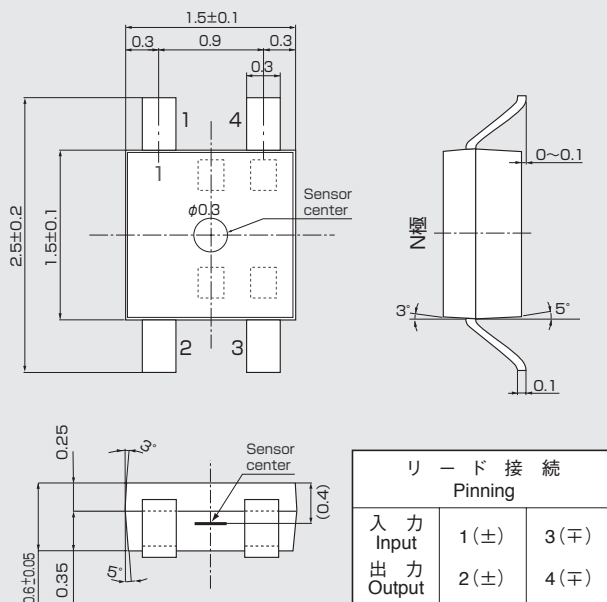
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## ●最大定格 Absolute Maximum Ratings

項目 Item	記号 Symbol	条件 Conditions	定格 Limit	単位 Unit
最大制御電圧 Max. Input Voltage	V <sub>c</sub>	Ta=25°C	10	V
最大許容損失 Max. Input Power	P <sub>D</sub>		150	mW
動作温度 Operating Temp. Range	T <sub>opr</sub>		-40 ~ +125	°C
保存温度 Storage Temp. Range	T <sub>stg</sub>		-40 ~ +150	°C



## ●外形寸法図 Dimensional Drawing (Unit : mm)



## ●電気的特性 (測定温度 25°C) Electrical Characteristics (Ta=25°C)

項目 Item	記号 Symbol	測定条件 Conditions	最小 Min.	標準 Typ.	最大 Max.	単位 Unit
ホール出力電圧 Output Hall Voltage	V <sub>H</sub> *	B=50mT, V <sub>c</sub> =6V	55		75	mV
入力抵抗 Input Resistance	R <sub>in</sub>	B=0mT, I <sub>c</sub> =0.1mA	650		850	Ω
出力抵抗 Output Resistance	R <sub>out</sub>	B=0mT, I <sub>c</sub> =0.1mA	650		850	Ω
不平衡電圧 Offset Voltage	V <sub>os</sub> (V <sub>u</sub> )	B=0mT, V <sub>c</sub> =6V	-11		+11	mV
出力電圧の温度係数 Temp. Coefficient of V <sub>H</sub>	αV <sub>H</sub> *	B=50mT, I <sub>c</sub> =5mA Ta=25~125°C			-0.06	%/°C
入力抵抗の温度係数 Temp. Coefficient of R <sub>in</sub>	αR <sub>in</sub> *	B=0mT, I <sub>c</sub> =0.1mA Ta=25~125°C			0.3	%/°C
ホール電圧直線性 Linearity	ΔK*	B=0.1/0.5T, I <sub>c</sub> =5mA			2	%

Notes : 1. V<sub>H</sub> = V<sub>H</sub>M - V<sub>os</sub> (V<sub>u</sub>) (V<sub>H</sub>M: meter indication)

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

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

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

$$T_1 = 25^\circ\text{C}, T_2 = 125^\circ\text{C}$$

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

$$B_1 = 0.5\text{T}, B_2 = 0.1\text{T}$$

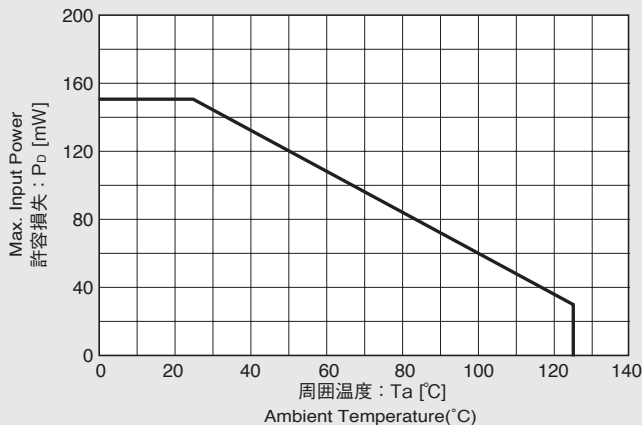
## ●テーピング Taping



## ●特性曲線図 Characteristic Curves

許容損失 (P<sub>D</sub>)—周囲温度 (T<sub>a</sub>)

Allowable Package Power Dissipation



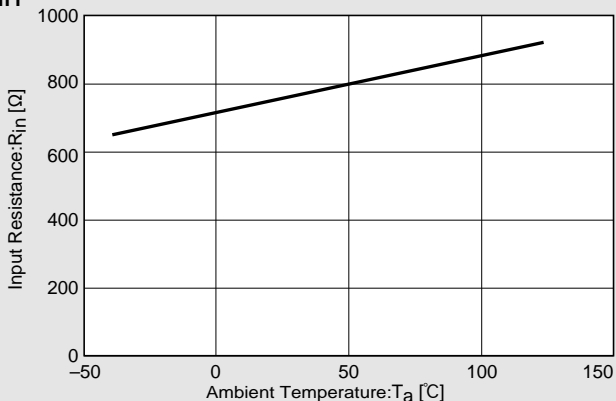
•Please be aware that our products are not intended for use in life support equipment, devices, or systems. Use of our products in such applications requires the advance written approval of our sales staff.  
 Certain applications using semiconductor devices may involve potential risks of personal injury, property damage, or loss of life. In order to minimize these risks, adequate design and operating safeguards should be provided by the customer to minimize inherent or procedural hazards. Inclusion of our products in such applications is understood to be fully at the risk of the customer using our devices or systems.

•Handling precautions required for preventing electrostatic discharge.

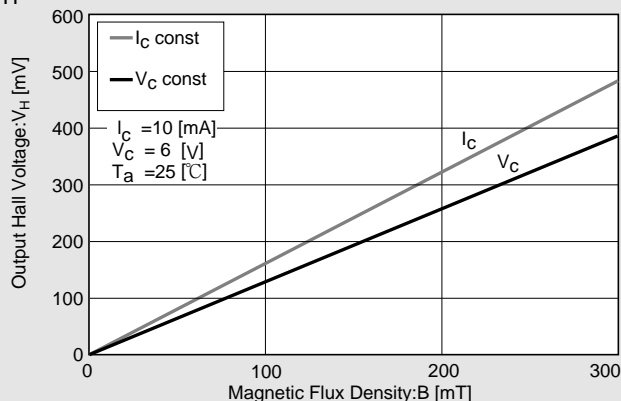
•This product contains gallium arsenide (GaAs). Handling and discarding precautions required.

●Characteristic Curves

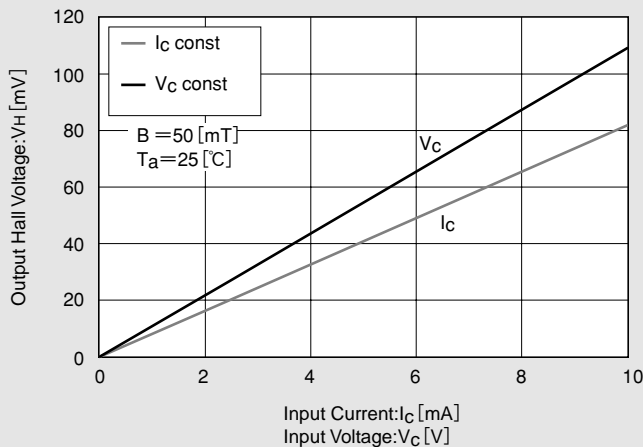
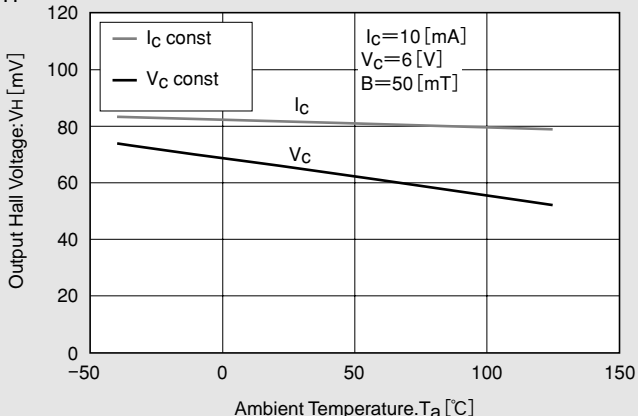
$R_{in}$ -T



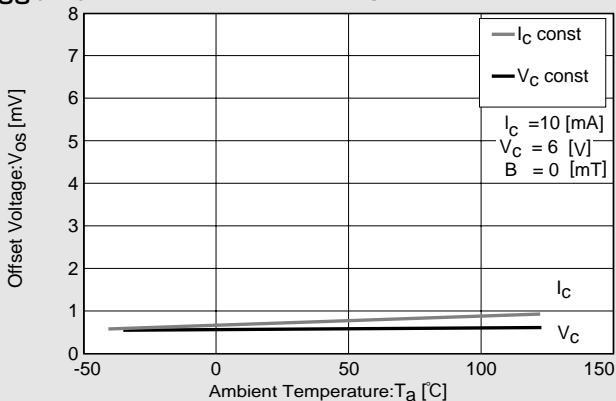
$V_H$ -B



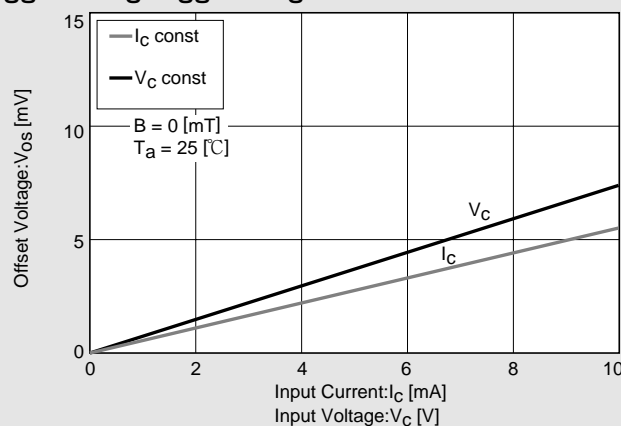
$V_H$ -T



$V_{OS}(V_u)$ -T (For reference only)



$V_{OS}(V_u)$ - $V_C$ ,  $V_{OS}(V_u)$ - $I_C$  (For reference only)



※Magnetic Flux Density  
 1[mT]=10 [G]

In This Example :  $R_{in}=750$  [Ω],  $V_{OS}=0.6$  [mV], [ $V_C=6$  [V]]

b

d

h

k