

# HG-106R

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

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

●Absolute Maximum Ratings (Ta=25°C)

| Item                  | Symbol | Limit      | Unit |
|-----------------------|--------|------------|------|
| Max. Input Voltage    | $V_C$  | 8          | 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, $V_C=6V$                               | 75    |      | 95    | mV       |
| Input Resistance              | $R_{in}$          | B=0mT, $I_C=0.1mA$                             | 450   |      | 750   | $\Omega$ |
| Output Resistance             | $R_{out}$         | B=0mT, $I_C=0.1mA$                             | 1,000 |      | 2,000 | $\Omega$ |
| Offset Voltage                | $V_{os}(V_U)$     | B=0mT, $V_C=6V$                                | -16   |      | +16   | mV       |
| Temp. Coefficient of $V_H$    | $\alpha V_H^*$    | B=50mT, $I_C=5mA$<br>$T_a=25\sim 125^\circ C$  |       |      | -0.06 | %/C      |
| Temp. Coefficient of $R_{in}$ | $\alpha R_{in}^*$ | B=0mT, $I_C=0.1mA$<br>$T_a=25\sim 125^\circ C$ |       |      | 0.3   | %/C      |
| Linearity                     | $\Delta K^*$      | B=0.1/0.5T, $I_C=5mA$                          |       |      | 2     | %        |

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

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

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

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

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

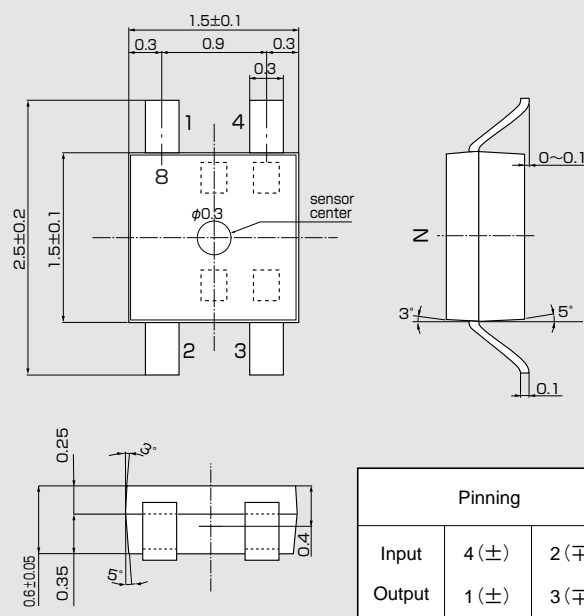
$$K = \frac{V_H}{I_C \cdot B}$$

$$B_1 = 0.5T, B_2 = 0.1T$$

## ●Taping

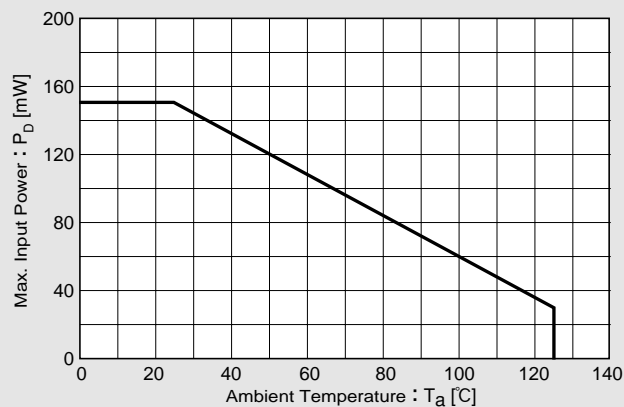


●Dimensional Drawing(Unit : mm)



## ●Characteristic Curves

## Allowable Package Power Dissipation



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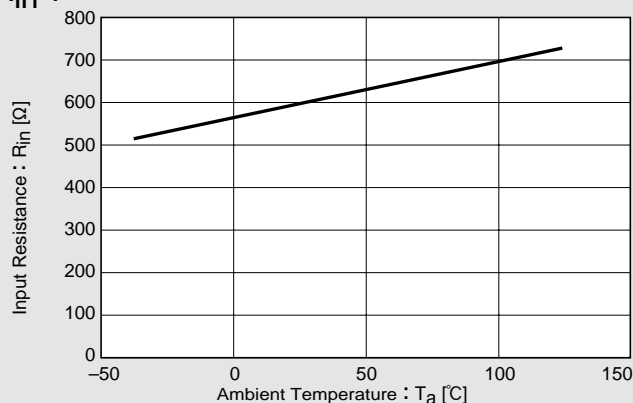
Certain applications using semiconductor devices may involve potential risks of personal injury, property damage, or loss of life. In order to minimize these risks, adequate design and operating safeguards should be provided by the customer to minimize inherent or procedural hazards. Inclusion of our 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.

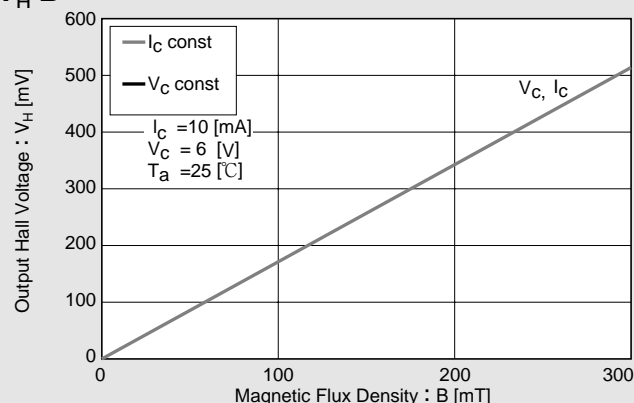
•This product contains gallium arsenide (GaAs) .Handling and discarding precautions required.

## ●Characteristic Curves

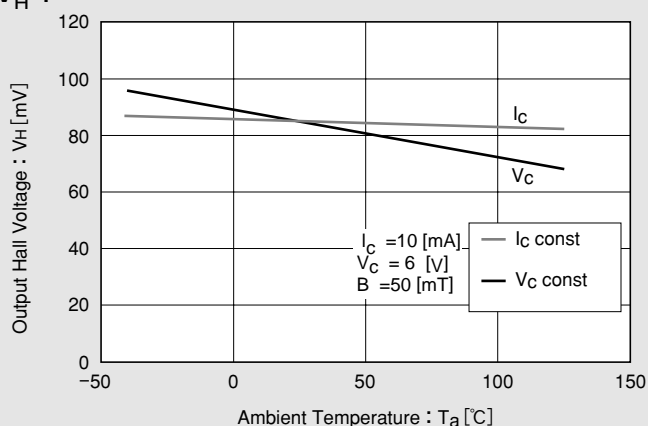
$R_{in}$ -T



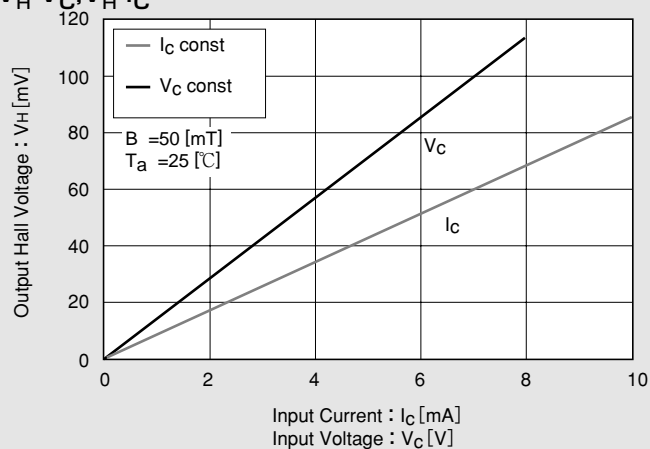
$V_H$ -B



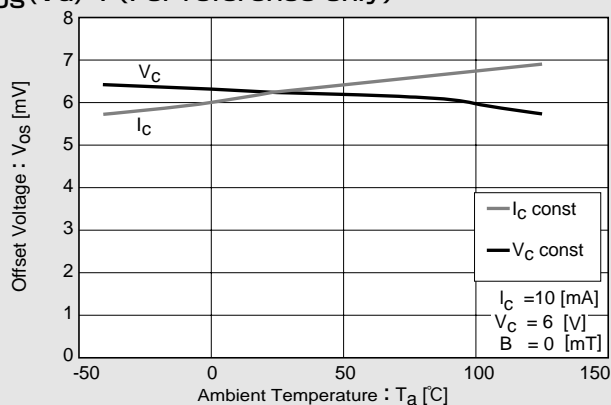
$V_H$ -T



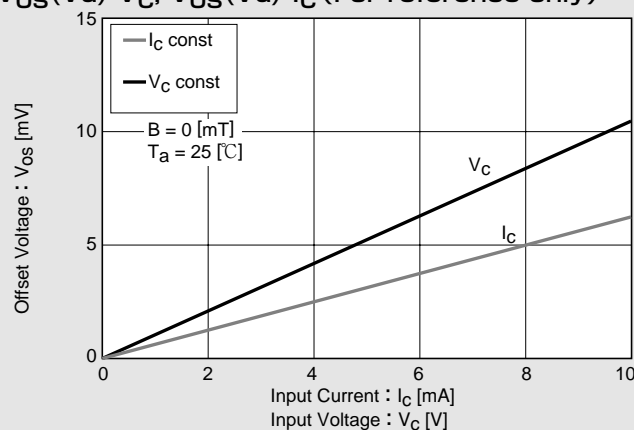
$V_H$ - $V_C$ ,  $V_H$ - $I_C$



$V_{OS}(V_U)$ -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 :  $R_{in}=600$  [Ω],  $V_{OS}=6.3$  [mV],  $V_C=6$  [V]

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June 2, 2010