

# HG-186A

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

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	$V_H^*$	$B=50\text{mT}$ , $V_C=6\text{V}$	80		110	mV
Input Resistance	$R_{in}$	$B=0\text{mT}$ , $I_C=0.1\text{mA}$	2,200	2,400	3,200	$\Omega$
Output Resistance	$R_{out}$	$B=0\text{mT}$ , $I_C=0.1\text{mA}$	4,400	4,800	6,400	$\Omega$
Offset Voltage	$V_{os}(V_o)$	$B=0\text{mT}$ , $V_C=6\text{V}$	-8		8	mV
Temp. Coefficient of $V_H$	$\alpha V_H^*$	$B=50\text{mT}$ , $I_C=1\text{mA}$ $T_a=25\sim 125^\circ\text{C}$			-0.08	%/°C
Temp. Coefficient of $R_{in}$	$\alpha R_{in}^*$	$B=0\text{mT}$ , $I_C=0.1\text{mA}$ $T_a=25\sim 125^\circ\text{C}$			0.3	%/°C
Linearity	$\Delta K^*$	$B=0.1/0.5\text{T}$ , $I_C=1\text{mA}$			2	%

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

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

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

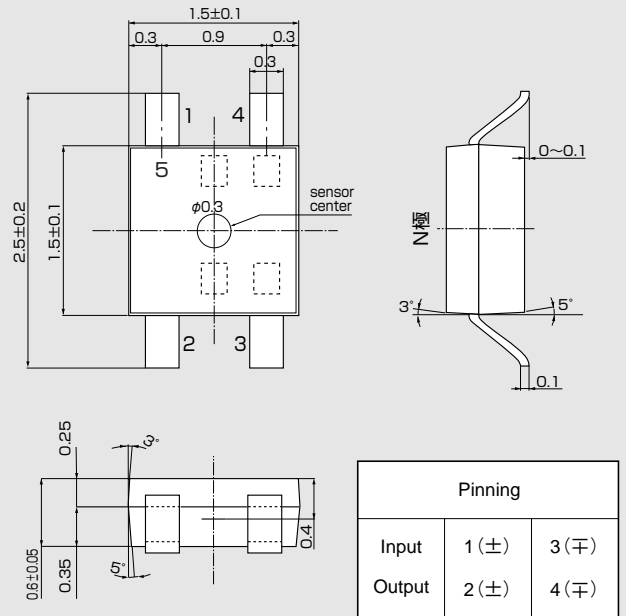
$$4. \Delta K = \frac{K(B_1) - K(B_2)}{[K(B_1) + K(B_2)]/2} \times 100$$

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

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

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

## ●Dimensional Drawing (Unit : mm)

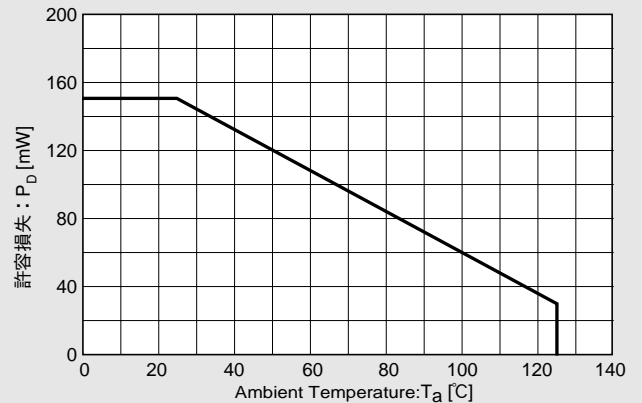


## ●Taping



## ●Characteristic Curves

### Allowable Package Power Dissipation



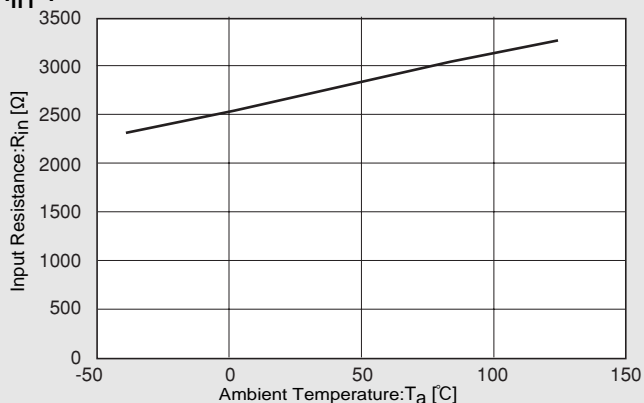
•Please be aware that AKE products are not intended for use in life support equipment, devices, or systems. Use of AKE products in such applications requires the advance written approval of the appropriate AKE officer.  
 Certain applications using semiconductor devices may involve potential risks of 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 AKE products in such applications is understood to be fully at the risk of the customer using AKE devices or systems.

•Handling precautions required for preventing electrostatic discharge.

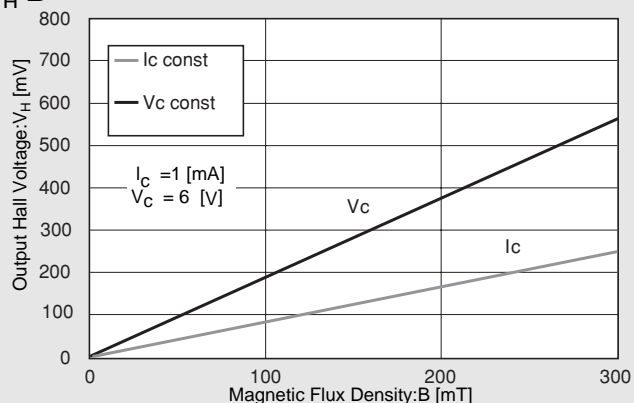
•This product contains gallium arsenide (GaAs) .Handling and discarding precautions required.

●Characteristic Curves

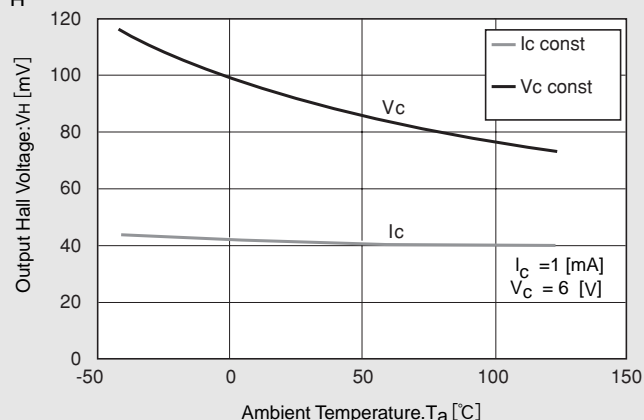
$R_{in}-T$



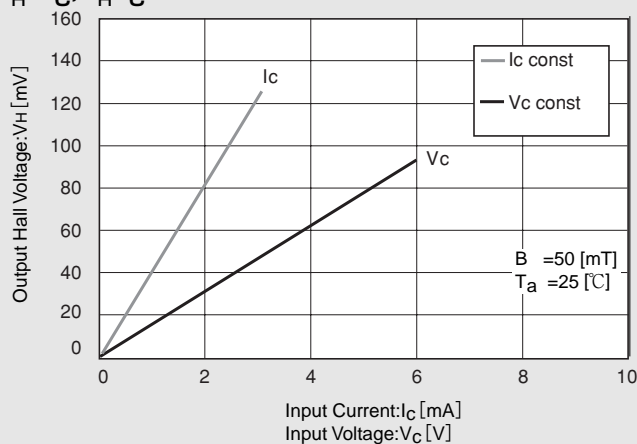
$V_H-B$



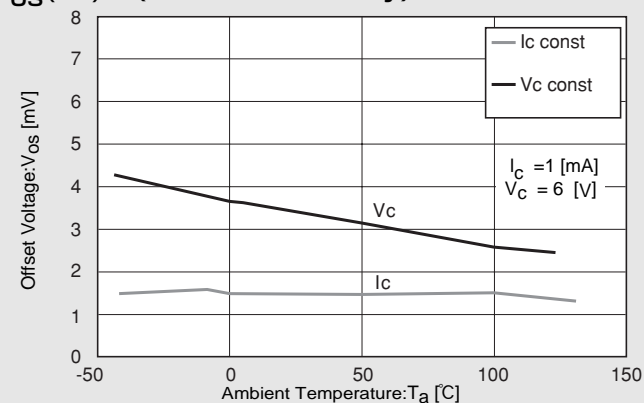
$V_H-T$



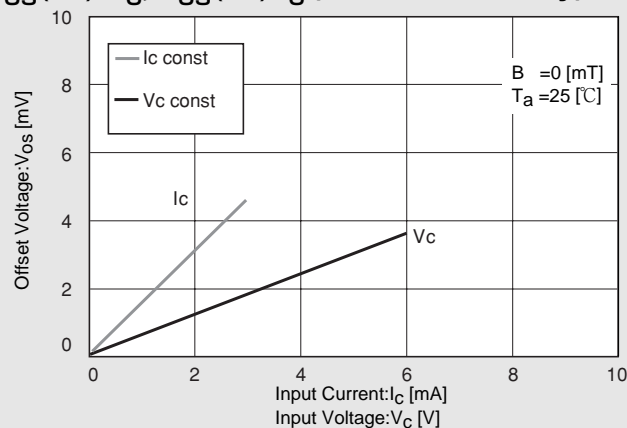
$V_H-V_C, V_H-I_C$



$V_{OS}(V_u)-T$  (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 :  $R_{in}$ =2659 [Ω] ,  $V_{OS}$ =3.44 [mV] ,  $V_c$ =6 [V]

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## ASAHI KASEI EMD CORPORATION

### Headquarters

1-23-7 Nishi-Shinjyuku, Shinjyuku-ku, Tokyo 160-0023, Japan

TEL : +81-3-6911-2800 FAX : +81-3-6911-2815

### Osaka Office

1-2-6 Dojimahama Kita-ku, Osaka 530-8205, Japan

TEL. +81-6-6347-3133 FAX. +81-3-6911-2815

### Europe Office

Market House, 19/21 Market Place, Wokingham, Berkshire, RG40 1AP, U.K.

TEL : +44-118-979-5777 FAX : +44-118-979-7885

### Shanghai Office

Room 2321, Shanghai Central Plaza, 381 Huaihai Zhong Road, Shanghai 200020, China

TEL. +86-21-6391-6111 FAX. +86-21-6391-6686

### Seoul Office

8th fl., KTP B/D, 27-2 Yoido-dong, Youngdungpo-gu, Seoul 150-742, Korea

TEL. +82-2-3775-0990 FAX. +82-2-3775-1991

## AKM Semiconductor, Inc

### Western US Sales

1731 Technology Dr Suite 500 San Jose, CA 95110, USA

TEL. +1-408-436-8580 FAX. +1-408-436-7591

### Eastern US Sales

629 Bamford Road Cherry Hill, NJ 08003, USA

TEL. +1-856-424-7211 FAX. +1-856-424-7344

### URL

<http://www.akemd.com>

## North American Distributor: GMW Associates

955 Industrial Rd, San Carlos, CA 94070, USA

TEL. +1-650-802-8292 FAX. +1-650-802-8298

EMAIL [sales@gmw.com](mailto:sales@gmw.com) WEB [www.gmw.com](http://www.gmw.com)