HQ-8220

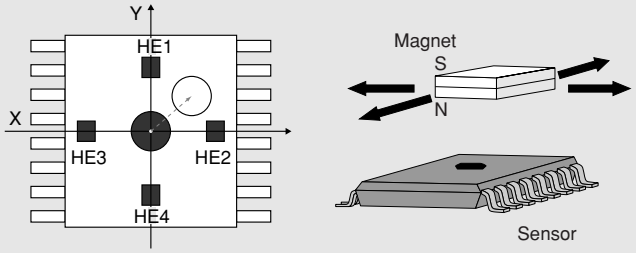
Shipped in packet-tape reel(5,000pcs per reel)

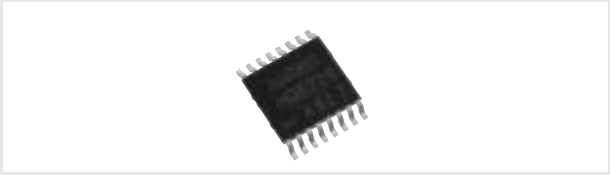
Notice : It is requested to read and accept "IMPORTANT NOTICE" written on the back of the front cover of this catalogue.

●PRINCIPLE

By comparing the output voltage of each Hall elememt, position of the magnet can be detected

Y direction	X direction	Detecting Position	
HE1=HE4	HE3=HE2	Center	●
HE1>HE4	HE3<HE2	Upper right	○





●Absolute Maximum Ratings

Item	Symbol	Limit	Unit
Max. Input Voltage	V_C	5	V
Max.Input Current	I_C	9	mA
Operating Temp. Range	Topr.	−40 ～ +125	℃
Storage Temp. Range	Tstg.	−40 ～ +150	℃

※1:パッケージ内の各個の素子毎の値です。

●Electrical Characteristics(T_a=25℃)

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Output Hall Voltage	$V_{H(i)}$ ※2	B=50mT, V_C=3V	90		130	mV
Relative Output Voltage Ratio	V_{Hr} ※3	B=50mT, V_C=3V	95		105	%
Input Resistance	$R_{in(i)}$	B=0mT, I_C=0.1mA	750		1150	Ω
Output Resistance	$R_{out(i)}$	B=0mT, I_C=0.1mA	750		1150	Ω
Relative Resistance Ratio	R_{inr}:R_{outr} ※4	B=0mT, I_C=0.1mA	95		105	%
Offset Voltage	$V_{OS}(Vu)/V_H$	B=0/50mT, V_C=3V	−6		+6	%
Temp. Coefficient of V_H	αV_H ※5	B=50mT, V_C=3V Ta=25～125℃		−0.2		%/℃
Temp. Coefficient of R_{in}	αR_{in} ※6	B=0mT, I_C=0.1mA Ta=25～125℃		−0.2		%/℃

※2. $V_H = VHM - V_{os}(Vu)$ (VHM:meter indication)

※3. $V_{H(i)}$(i=1.4) is Hall output voltage of 4-Hall Elements of one package.
$V_{Hr\ min}$=min($V_{H(i)}$)/$V_{Havg.}$X100, $V_{Hr\ max}$=max($V_{H(i)}$)/$V_{Havg.}$X100
Where $V_{Havg.}$=($V_{H(1)}$+$V_{H(2)}$+$V_{H(3)}$+$V_{H(4)}$)/4

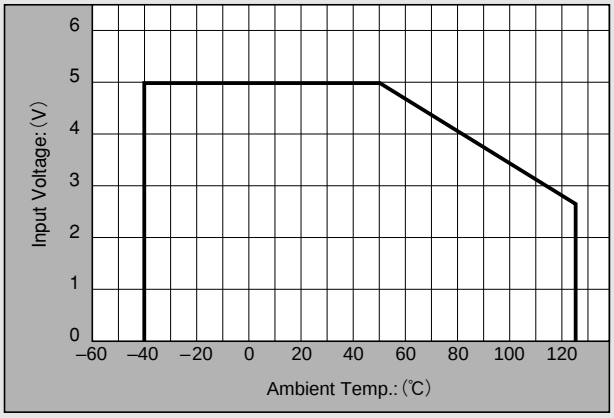
※4. $R_{in(i)}$(i=1.4) is input resistance of 4-Hall Elements of one package.
$R_{in\ r\ max}$=min($R_{in(i)}$)/$R_{inavg.}$×100, $R_{in\ r\ max}$=max($R_{in(i)}$)/$R_{inavg.}$×100
Where R_{inavg}=($R_{in(1)}$+$R_{in(2)}$+$R_{in(3)}$+$R_{in(4)}$)/4
R_{out} is calucuated as the same formula.

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

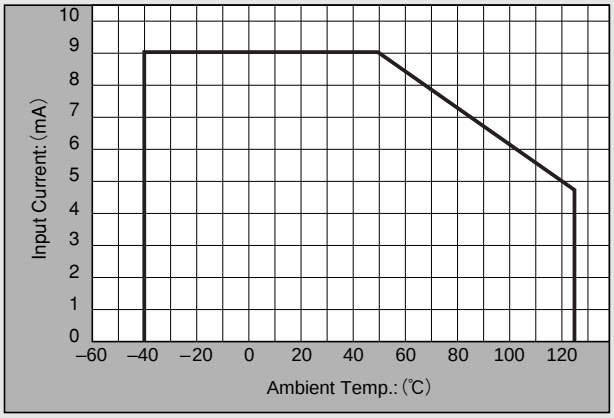
※6. $\alpha R_{in} = \frac{1}{R_{in}(T_1)} \times \frac{R_{in}(T_2) - R_{in}(T_1)}{(T_2 - T_1)} \times 100$

T_1 = 25˚C, T_2 = 125˚C

●Input Current Derating Curve



●Input Voltage Derating Curve



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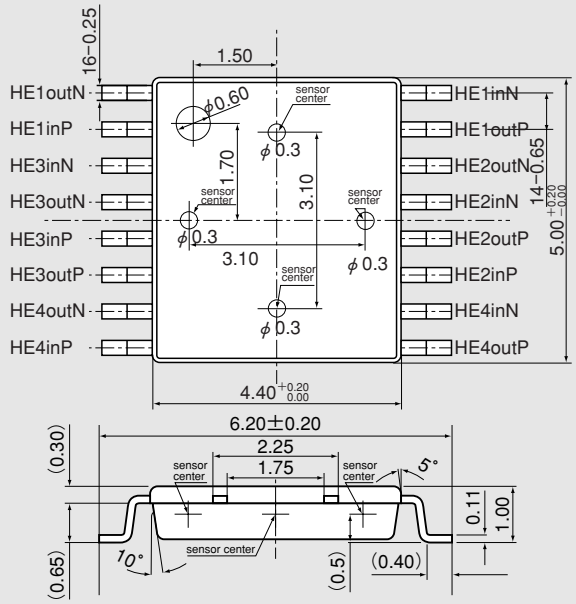
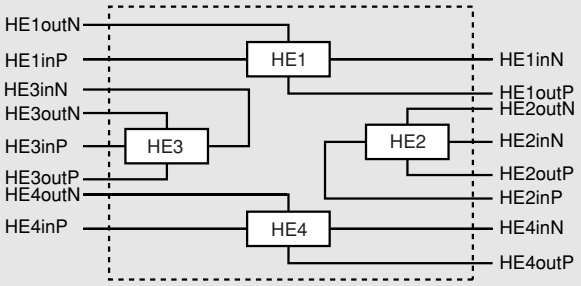
•Handling precautions required for preventing electrostatic discharge.

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

●Dimensional Drawing(Unit : mm)

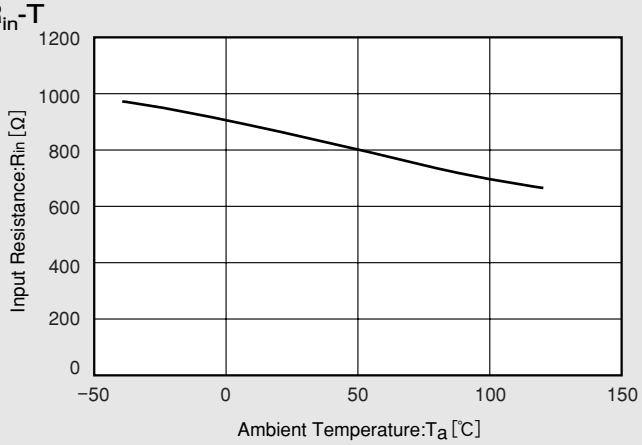


●Pinning

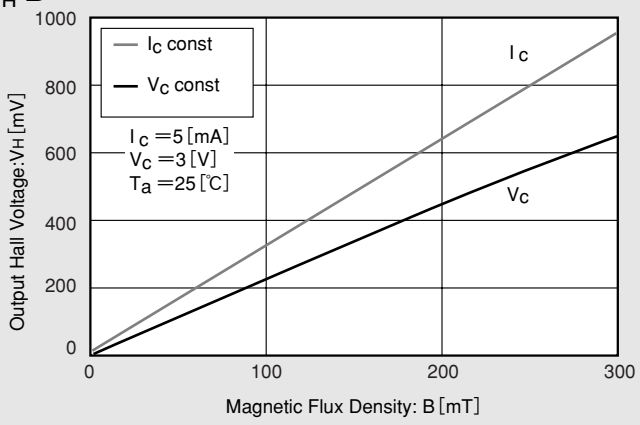


●Characteristic Curves

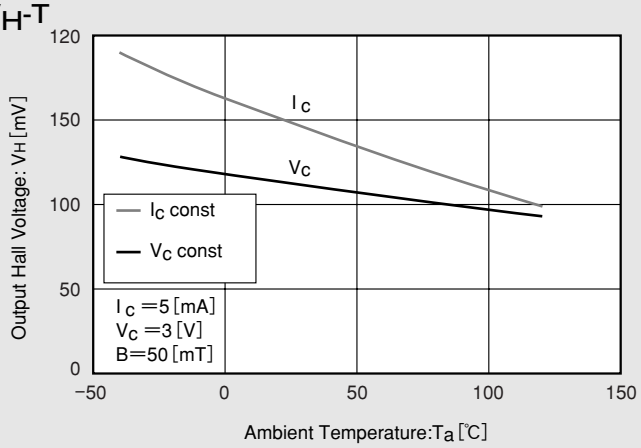
R_{in}-T



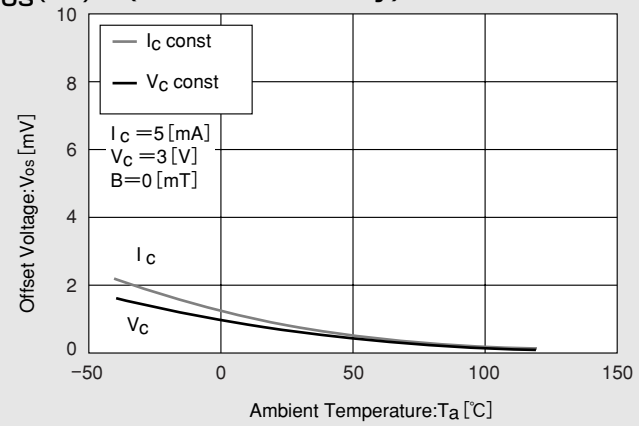
V_H-B



V_H-T



V_{os}(Vu)-T (For reference only)



※Magnetic Flux Density
1 [mT] =10 [G]

in This Example:R_{in}=850〔Ω〕、V_{os}=0.8〔mV〕[Vc=3〔V〕]

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