HW-105C

•High-sensitivity Hall element.
•Super mini-mold SMT package (fits SOT 343 land pattern).
•Shipped in packet-tape reel (5000pcs per reel).

•Absolute Maximum Ratings

Item	Symbol		Limit	Unit
Max. Input Current	I_C	Const. Current Drive	20	mA
Operating Temp. Range	$T_{opr.}$		–40 to +110	˚C
Storage Temp. Range	$T_{stg.}$		–40 to +125	˚C

•Classification of Output Hall Voltage (V_H)

Rank	V_H [mV]	Conditions
Q	41 to 57	B=50mT, V_C=IV Constant Voltage Drive
R	51 to 74	

•Electrical Characteristics(T_a=25˚C)

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Output Hall Voltage	V_H	Const. Voltage Drive B=50mT, V_C=IV	41		74	mV
Input Resistance	R_{in}	B=0mT, I_C=0.1mA	250		450	Ω
Output Resistance	R_{out}	B=0mT, I_C=0.1mA	250		450	Ω
Offset Voltage	V_{os}	B=0mT, V_C=IV	–7		+7	mV
Temp. Coefficient of V_H	αV_H	B=50mT, I_C=5mA		–1.8		%/˚C
Temp. Coefficient of R_{in}	αR_{in}	B=0mT, I_C=0.1mA		–1.8		%/˚C
Dielectric Strength		100V D.C	1.0			MΩ

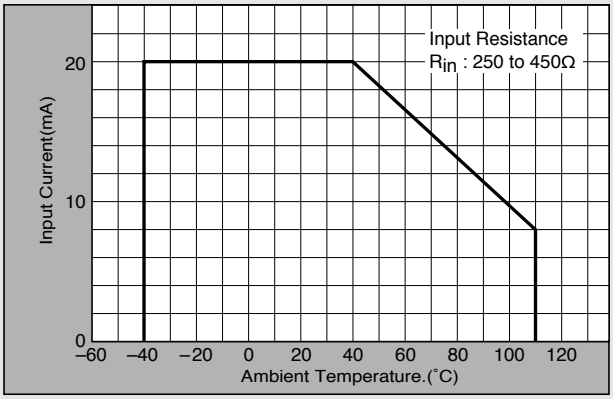
Notes : 1. $V_H = VHM - V_{os}$ (VHM:meter indication)

2. $\alpha V_H = \frac{1}{V_H(T_1)} \times \frac{V_H(T_3) - V_H(T_2)}{(T_3 - T_2)} \times 100$

3. $\alpha R_{in} = \frac{1}{R_{in}(T_1)} \times \frac{R_{in}(T_3) - R_{in}(T_2)}{(T_3 - T_2)} \times 100$

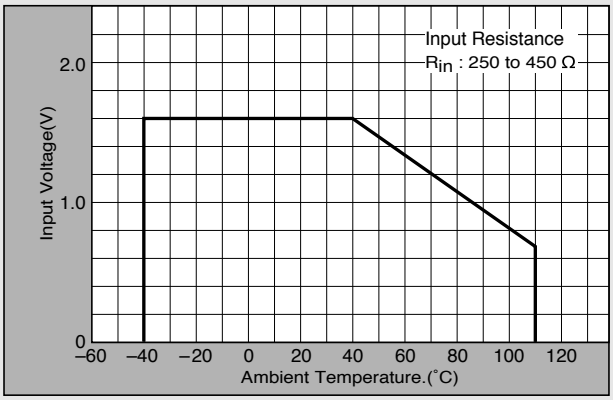
T_1 = 20˚C, T_2 = 0˚C, T_3 = 40˚C

•Input Current Derating Curve



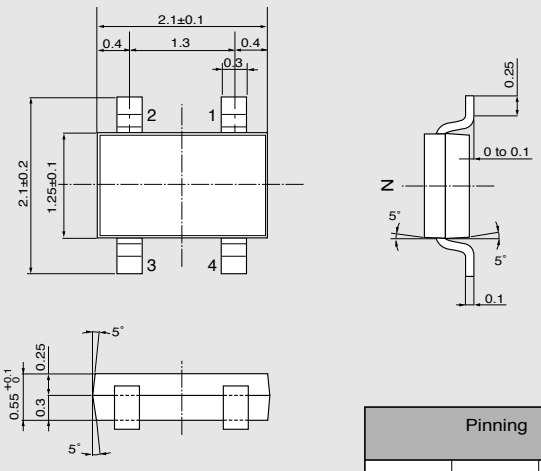
Note : R_{in} of Hall element decreases rapidly as ambient temperature increases. Ensure compliance with input current derating curve envelope, throughout the operating temperature range.

•Input Voltage Derating Curve



Note : For constant-voltage drive, stay within this input voltage derating curve envelope.

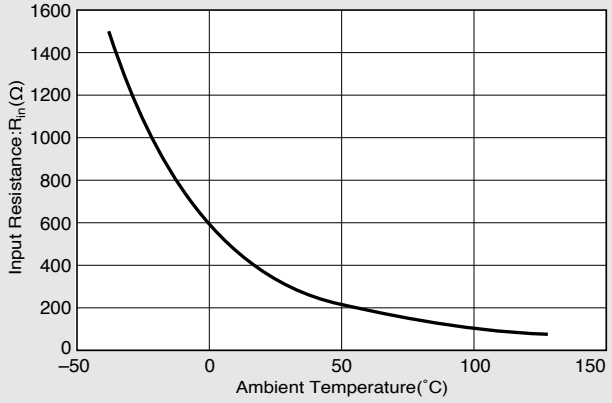
•Dimensional Drawing (mm)



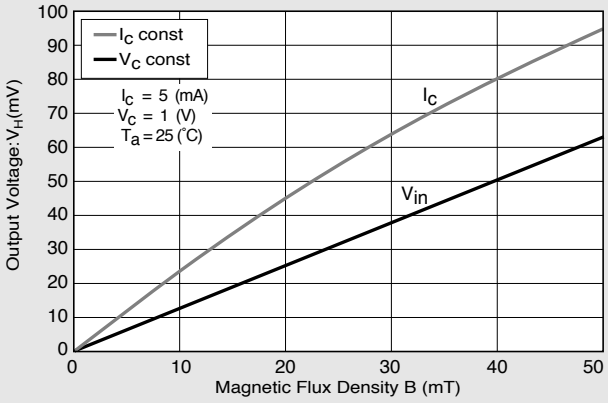
Pinning		
Input	1(±)	3(∓)
Output	2(±)	4(∓)

•Characteristic Curves

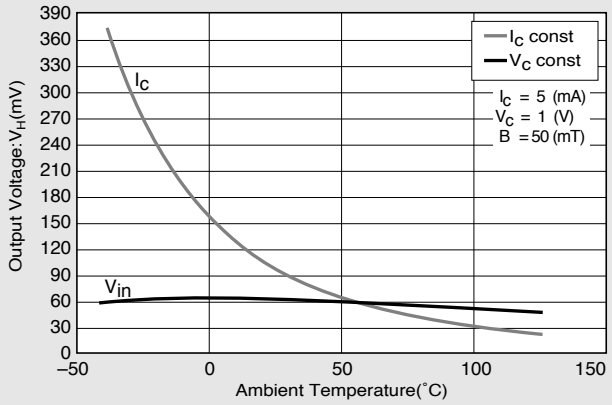
R_{in}-T



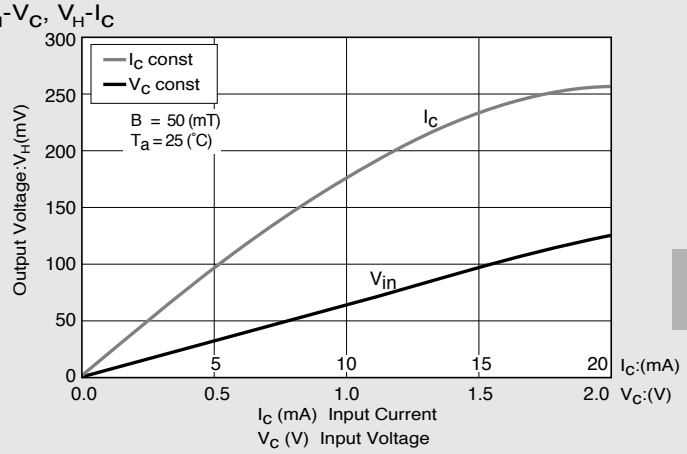
V_H-B



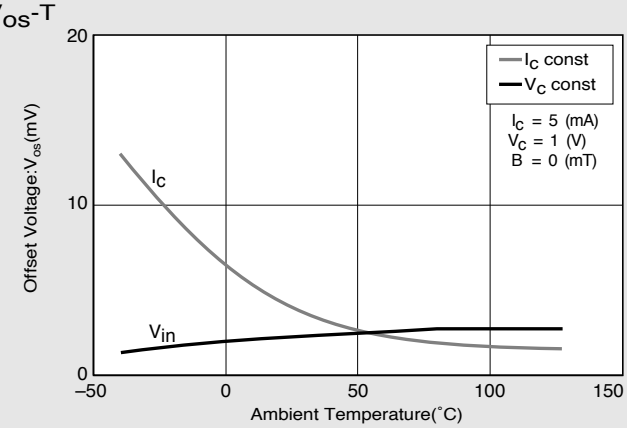
V_H-T



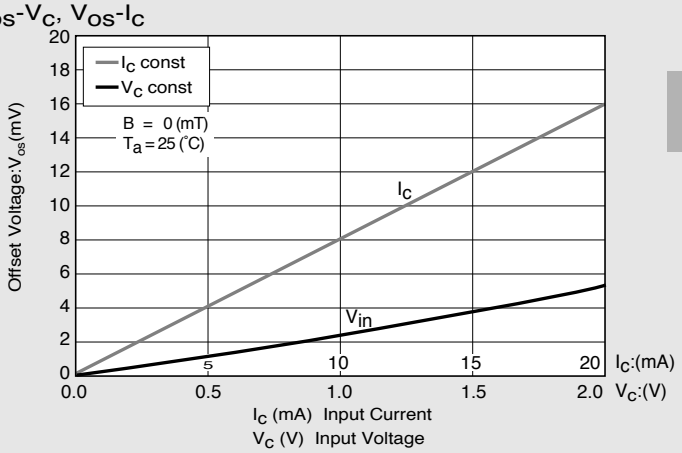
V_H-V_C, V_H-I_C



V_{os}-T



V_{os}-V_C, V_{os}-I_C



*Magnetic Flux Density
1(mT)=10(G)

In This Example : R_{in}=350(Ω), V_{os}=4.7(mV), V_C=1(V)