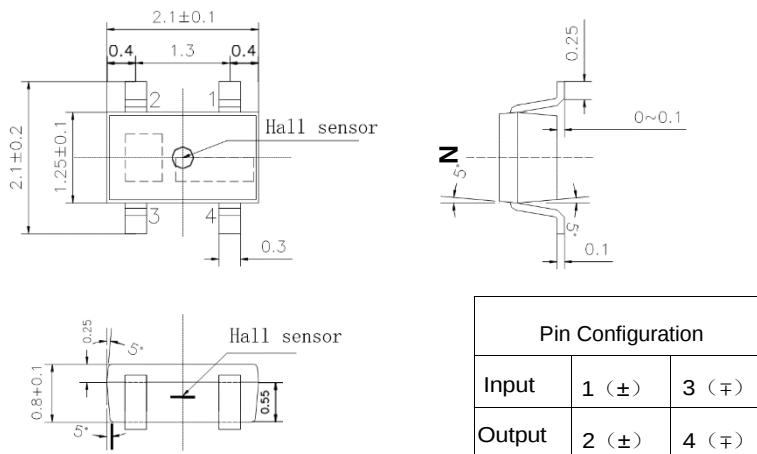


## Features

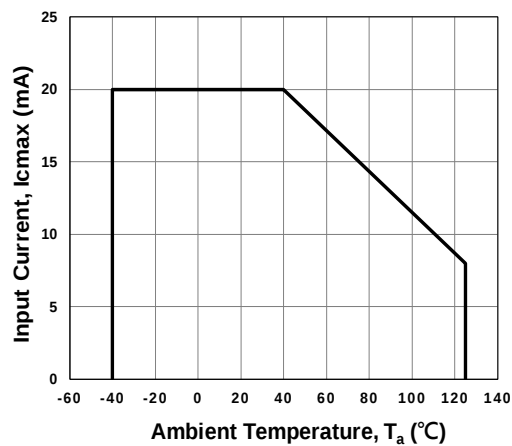
- Ultra High-sensitivity InSb Hall element
- Thin SOT Package
- Shipped in packet-tape reel (4,000pcs per reel)

## Dimensional Drawing (Unit: mm)

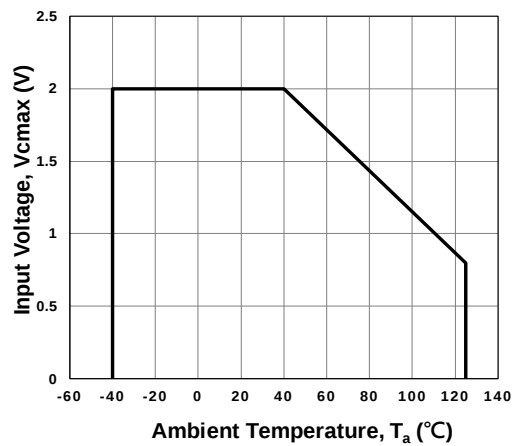


## Absolute Maximum Rating

| Symbol           | Parameter                   | Rating     | Units |
|------------------|-----------------------------|------------|-------|
| T <sub>STG</sub> | Storage Temperature Range   | -55 to 150 | °C    |
| T <sub>opr</sub> | Operating Temperature Range | -40 to 125 | °C    |
| I <sub>C</sub>   | Maximum Input Current       | 20         | mA    |
| V <sub>C</sub>   | Maximum Input Voltage       | 2          | V     |



**Input current Detraing**



**Input Voltage Detraing**

**Table 1. Electrical Characteristics (  $T_a = 25^\circ\text{C}$  )**

| Item                      | Symbol          | Test Conditions.                                                                       | Min. | Typ. | Max. | Unit                |
|---------------------------|-----------------|----------------------------------------------------------------------------------------|------|------|------|---------------------|
| Hall Voltage              | $V_H$           | $B = 50\text{mT}, V_C=1\text{V}$                                                       | 168  | ---  | 370  | mV                  |
| Input Resistance          | $R_{in}$        | $B = 0\text{mT}, I_C = 0.1\text{mA}$                                                   | 250  | ---  | 550  | $\Omega$            |
| Output Resistance         | $R_{out}$       | $B = 0\text{mT}, I_C = 0.1\text{mA}$                                                   | 250  | ---  | 550  | $\Omega$            |
| Offset Voltage            | $V_{os}$        | $B = 0\text{mT}, V_C = 1\text{V}$                                                      | -7   | ---  | +7   | mV                  |
| Temp. Coeffi. of $V_H$    | $\alpha V_H$    | $B = 50\text{mT}, I_C = 5\text{mA},$<br>$T_a = 0^\circ\text{C} \sim 40^\circ\text{C}$  | ---  | -1.8 | ---  | $\%/^\circ\text{C}$ |
| Temp. Coeffi. of $R_{in}$ | $\alpha R_{in}$ | $B = 0\text{mT}, I_C = 0.1\text{mA},$<br>$T_a = 0^\circ\text{C} \sim 40^\circ\text{C}$ | ---  | -1.8 | ---  | $\%/^\circ\text{C}$ |

Note:

$$1. \quad V_H = V_{H-M} - V_{os}$$

In which  $V_{H-M}$  is the Output Hall Voltage,  $V_H$  is the Hall Voltage and  $V_{os}$  is the offset Voltage under the identical electrical stimuli.

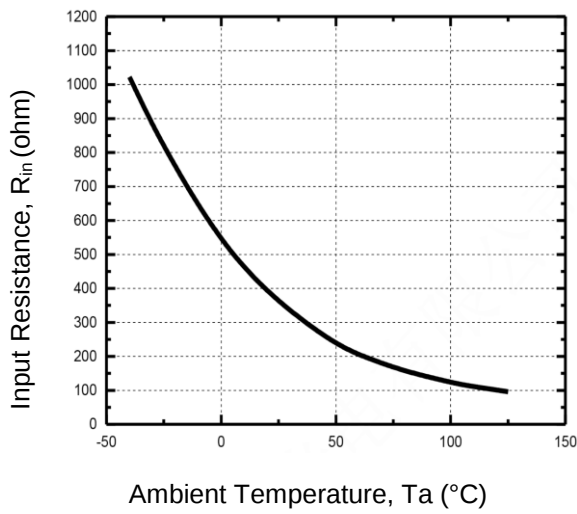
$$2. \quad \alpha V_H = \frac{1}{V_H(T_1)} \times \frac{V_H(T_3) - V_H(T_2)}{(T_3 - T_2)} \times 100$$

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

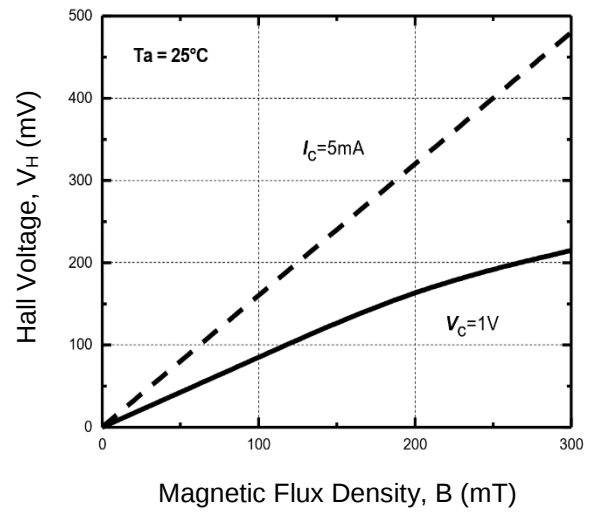
$$T_1 = 20^\circ\text{C}, T_2 = 0^\circ\text{C}, T_3 = 40^\circ\text{C}$$

**Table 2. Classification of Hall Voltage ( $V_H$ )**

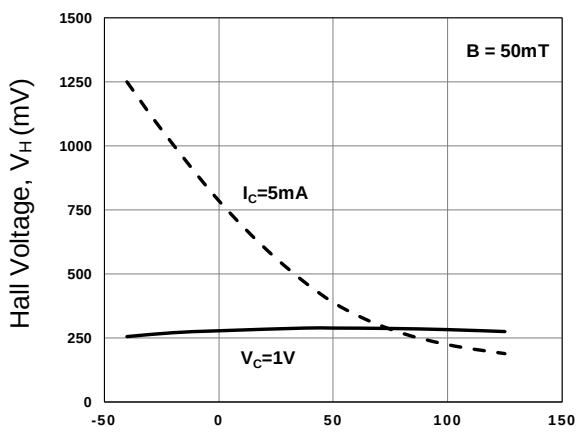
| Rank | $V_H$ [mV] | Conditions                     |
|------|------------|--------------------------------|
| C    | 168 ~ 204  | $B=50\text{mT}, V_C=1\text{V}$ |
| D    | 196 ~ 236  |                                |
| E    | 228 ~ 274  |                                |
| F    | 266 ~ 320  |                                |
| G    | 310 ~ 370  |                                |



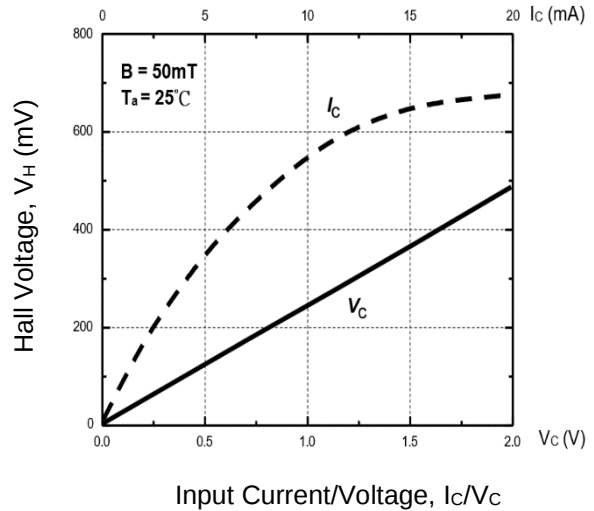
**Fig.1  $R_{in}$ - $T_a$**



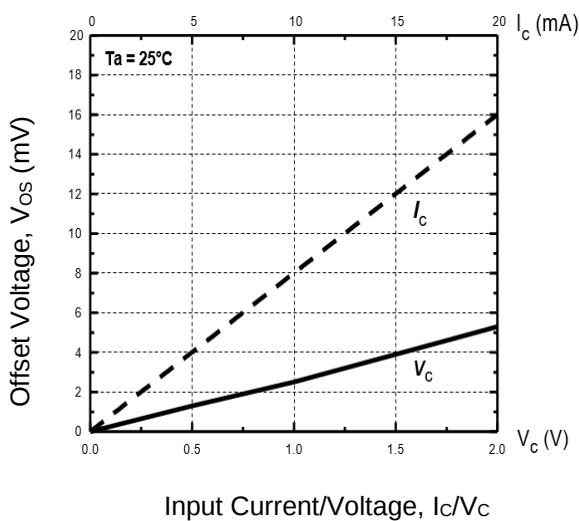
**Fig.2  $V_H$ - $B$**



**Fig.3  $V_H$ - $T_a$**



**Fig.4  $V_H$ - $I_c$ ,  $V_H$ - $V_c$**



**Fig.5  $V_{os}$ - $I_c$ ,  $V_{os}$ - $V_c$**