HW-101A
Shipped in packet-tape reel(3,000pcs 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

<table>
<thead>
<tr>
<th>Item</th>
<th>Symbol</th>
<th>Limit</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Input Current</td>
<td>I&lt;sub&gt;c&lt;/sub&gt;</td>
<td>Const. Current Drive</td>
<td>20 mA</td>
</tr>
<tr>
<td>Operating Temp. Range</td>
<td>T&lt;sub&gt;op&lt;/sub&gt;</td>
<td>40 ~ 110 °C</td>
<td></td>
</tr>
<tr>
<td>Storage Temp. Range</td>
<td>T&lt;sub&gt;stg&lt;/sub&gt;</td>
<td>40 ~ 125 °C</td>
<td></td>
</tr>
</tbody>
</table>

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

Classification of Output Hall Voltage (V<sub>H</sub>)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Output Hall Voltage V&lt;sub&gt;H&lt;/sub&gt; [mV]</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>168 ~ 204</td>
<td>B=50mT, V&lt;sub&gt;c&lt;/sub&gt;=1V Constant Voltage Drive</td>
</tr>
<tr>
<td>D</td>
<td>196 ~ 236</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>228 ~ 274</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>266 ~ 320</td>
<td></td>
</tr>
<tr>
<td>G</td>
<td>310 ~ 370</td>
<td></td>
</tr>
</tbody>
</table>

Electrical Characteristics (T<sub>a</sub>=25°C)

<table>
<thead>
<tr>
<th>Item</th>
<th>Symbol</th>
<th>Conditions</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Hall Voltage</td>
<td>V&lt;sub&gt;H&lt;/sub&gt;</td>
<td>Const. Voltage Drive</td>
<td>168</td>
<td>370</td>
<td>mV</td>
<td></td>
</tr>
<tr>
<td>Input Resistance</td>
<td>R&lt;sub&gt;IN&lt;/sub&gt;</td>
<td>B=0mT, I&lt;sub&gt;C&lt;/sub&gt;=0.1mA</td>
<td>240</td>
<td>550</td>
<td>Ω</td>
<td></td>
</tr>
<tr>
<td>Output Resistance</td>
<td>R&lt;sub&gt;OUT&lt;/sub&gt;</td>
<td>B=0mT, I&lt;sub&gt;C&lt;/sub&gt;=0.1mA</td>
<td>240</td>
<td>550</td>
<td>Ω</td>
<td></td>
</tr>
<tr>
<td>Offset Voltage</td>
<td>V&lt;sub&gt;H&lt;/sub&gt;</td>
<td>B=0mT, V&lt;sub&gt;c&lt;/sub&gt;=1V</td>
<td>7</td>
<td>7</td>
<td>mV</td>
<td></td>
</tr>
<tr>
<td>Temp. Coefficient of V&lt;sub&gt;H&lt;/sub&gt;</td>
<td>a&lt;sub&gt;VH&lt;/sub&gt;</td>
<td>Average on 0~40°C</td>
<td>0%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temp. Coefficient of R&lt;sub&gt;IN&lt;/sub&gt;</td>
<td>a&lt;sub&gt;RIN&lt;/sub&gt;</td>
<td>Average on 0~40°C</td>
<td>0%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dielectric Strength</td>
<td></td>
<td>100V D.C</td>
<td>1.0</td>
<td>MD</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. V<sub>H</sub> = V<sub>H</sub> - V<sub>os</sub>(V<sub>u</sub>) (VHM-meter indication)
2. a<sub>VH</sub> = 1<br><br>
3. a<sub>RIN</sub> = 1<br><br>
T<sub>1</sub> = 20°C, T<sub>2</sub> = 0°C, T<sub>3</sub> = 40°C

Input Current Derating Curve

Note: R<sub>N</sub> 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 (Unit: mm)
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Characteristic Curves

- **Input Resistance ($R_{in}$) vs. Ambient Temperature ($T_A$)**

- **Output Hall Voltage ($V_{H}$) vs. Magnetic Flux Density ($B$)**

- **Output Hall Voltage ($V_{H}$) vs. Temperature ($T_A$)**

- **Offset Voltage ($V_{OS}$) vs. Ambient Temperature ($T_A$)**

- **Offset Voltage ($V_{OS}$) vs. Input Current ($I_C$)**

In This Example: $R_{in}=350 \, \Omega$, $V_{OS}=4.7 \, mV$, $[V_{C}=1 \, V]$
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