Hybrid Hall Effect ICs  EW-series

**EW-400**

EW-400 is composed of a Ultra-high sensitive InSb Hall element and a signal processing IC chip in a package.

**Bipolar Hall Effect Latch**

**Supply Voltage** 4.5~18V

**Hall Element Continuous Excitation**

**Low Sensitivity** Bop: 10mT

**Output** Open Collector

**SMT**

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

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**Operational Characteristics**

![Diagram of EW-400](image)

- **Operating Point** Bop: Vcc=12V, 5-10-20 mT
- **Releasing Point** Brp: Vcc=12V, -20-10-5 mT
- **Hysteresis** Bh: Vcc=12V, 10-20 mT
- **Output Saturation Voltage** Vsat: Vcc=12V, OUT=0, Ion=10mA, 0.4 V
- **Output Leakage Current** Ion: Vcc=12V, OUT=0, Io=1µA
- **Supply Current** Isupply: Vcc=12V, OUT=0, 8 mA

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**Absolute Maximum Ratings (Ta=25°C)**

<table>
<thead>
<tr>
<th>Item</th>
<th>Symbol</th>
<th>Min.</th>
<th>Max.</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply Voltage</td>
<td>Vcc</td>
<td>-0.3</td>
<td>18</td>
<td>V</td>
</tr>
<tr>
<td>Output H Voltage</td>
<td>Voff</td>
<td>-0.3</td>
<td>Vcc</td>
<td>V</td>
</tr>
<tr>
<td>Output L Current</td>
<td>Ion</td>
<td>0</td>
<td>15</td>
<td>mA</td>
</tr>
<tr>
<td>Storage Temperature Range</td>
<td>Tst</td>
<td>-40</td>
<td>+125</td>
<td>°C</td>
</tr>
</tbody>
</table>

(*Please refer to Supply Voltage Derating Curve.*

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**Recommended Operating Conditions**

<table>
<thead>
<tr>
<th>Item</th>
<th>Symbol</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply Voltage</td>
<td>Vcc</td>
<td>4.5</td>
<td>12</td>
<td>18</td>
<td>V</td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>Topr</td>
<td>-20</td>
<td>+25</td>
<td>+115</td>
<td>°C</td>
</tr>
</tbody>
</table>

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**Magnetic and Electrical Characteristics (Ta=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>Operating Point</td>
<td>Bop</td>
<td>Vcc=12V</td>
<td>5</td>
<td>10</td>
<td>20</td>
<td>mT</td>
</tr>
<tr>
<td>Releasing Point</td>
<td>Brp</td>
<td>Vcc=12V</td>
<td>-20</td>
<td>-10</td>
<td>-5</td>
<td>mT</td>
</tr>
<tr>
<td>Hysteresis</td>
<td>Bh</td>
<td>Vcc=12V</td>
<td>10</td>
<td>20</td>
<td></td>
<td>mT</td>
</tr>
<tr>
<td>Output Saturation Voltage</td>
<td>Vsat</td>
<td>Vcc=12V, OUT=0, Ion=10mA</td>
<td></td>
<td></td>
<td>0.4</td>
<td>V</td>
</tr>
<tr>
<td>Output Leakage Current</td>
<td>Ion</td>
<td>Vcc=12V, OUT=0, Io=1µA</td>
<td></td>
<td></td>
<td>1</td>
<td>µA</td>
</tr>
<tr>
<td>Supply Current</td>
<td>Isupply</td>
<td>Vcc=12V, OUT=0</td>
<td></td>
<td></td>
<td>8</td>
<td>mA</td>
</tr>
</tbody>
</table>

1 [mT] = 10 [Gauss]
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○ Package (Unit:mm)

○ Land Pattern (Unit:mm)

Note 1) The sensor center is located within the φ0.3mm circle.

Note 2) The tolerances of dimensions with no mentions is ±0.1mm.

Note 3) The sensor part is located 0.7mm (typ.) far from marking surface.

Note 4) The metal portions on the package side (support lead) are connected to the internal circuits. The support lead should be isolate from the external circuit and the other support lead.

○ Supply Voltage Derating Curve

○ Supply Voltage Dependence of Bop. Brp

○ Temperature Dependence of Bop. Brp
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