Origin’s Semiconductor Devices

SM-1XN08, SM-1XN12, SM-1XN16

**General Rectifying Diode**

**Features**
- Compact body. Minimum mounting pitch 5mm, height 2.4mm
- Suitable for automatic insertion (0.6mm-dia Lead)
- High reliability due to passivation protecting moisture.

**Applications**
- Rectification of Power supply.

**Structures**
- Resin molded, and diffused junction silicon diode.
- Marking symbol:
  - SM-1XN08: [N8]
  - SM-1XN12: [N12]
  - SM-1XN16: [N16]
- Weight: 0.2g
- Terminal plating: Sn
- Conforms to RoHS regulations

**Outline Drawing**

**Absolute Maximum Ratings**

<table>
<thead>
<tr>
<th>Items</th>
<th>Symbol</th>
<th>Conditions</th>
<th>Ratings</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repetitive Peak Reverse Voltage</td>
<td>V&lt;sub&gt;RM&lt;/sub&gt;</td>
<td></td>
<td>800</td>
<td>V</td>
</tr>
<tr>
<td>Average Rectified Forward Current</td>
<td>I&lt;sub&gt;F&lt;/sub&gt;</td>
<td>Ta=50°C, Half sin wave 180°, Resistive Load</td>
<td>1</td>
<td>A</td>
</tr>
<tr>
<td>Peak Forward Surge Current</td>
<td>I&lt;sub&gt;FSM&lt;/sub&gt;</td>
<td>Tj=50°C, 50Hz, Single-phase, Half sin wave, Non-Repetitive</td>
<td>45</td>
<td>A</td>
</tr>
<tr>
<td>Operating Junction Temperature</td>
<td>T&lt;sub&gt;j&lt;/sub&gt;</td>
<td></td>
<td>-40～+150</td>
<td>℃</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>T&lt;sub&gt;stg&lt;/sub&gt;</td>
<td></td>
<td>-40～+150</td>
<td>℃</td>
</tr>
</tbody>
</table>

**Electrical Characteristics (Tj=25°C)**

<table>
<thead>
<tr>
<th>Items</th>
<th>Symbol</th>
<th>Conditions</th>
<th>MAX.</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forward Voltage Drop</td>
<td>V&lt;sub&gt;F&lt;/sub&gt;</td>
<td>I&lt;sub&gt;F&lt;/sub&gt;=1A</td>
<td>1.0</td>
<td>V</td>
</tr>
<tr>
<td>Reverse Leakage Current</td>
<td>I&lt;sub&gt;R&lt;/sub&gt;</td>
<td>V&lt;sub&gt;R&lt;/sub&gt;=V&lt;sub&gt;RM&lt;/sub&gt;</td>
<td>10</td>
<td>μA</td>
</tr>
</tbody>
</table>
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SM-1XN (800V to 1600V/1A)

Characteristics Diagrams

- Average Rectified Forward Current vs. Ambient Temperature
- Maximum Forward Surge Current vs. Number of Cycles

AVERAGE RECTIFIED FORWARD CURRENT

MAXIMUM FORWARD SURGE CURRENT

FORWARD CHARACTERISTICS