SURFACE MOUNT GENERAL RECTIFIERS

Reverse Voltage – 50 to 1000 Volts
Forward Current – 1.0 Ampere

Features
- For surface mounted applications
- Low reverse leakage
- Built-in strain relief, ideal for automated placement
- High forward surge current capability
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- High temperature soldering: 250°C/10sec at terminals

Mechanical Data
- Case: JEDEC DO-214AC, molded plastic.
- Polarity: Color band denotes cathode band
- Mounting position: Any

Absolute Maximum Ratings and Characteristics
Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

<table>
<thead>
<tr>
<th>Symbols</th>
<th>Symbols</th>
<th>GS1A</th>
<th>GS1B</th>
<th>GS1D</th>
<th>GS1G</th>
<th>GS1J</th>
<th>GS1K</th>
<th>GS1M</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>VRRM</td>
<td>Maximum recurrent peak reverse voltage</td>
<td>50</td>
<td>100</td>
<td>200</td>
<td>400</td>
<td>600</td>
<td>800</td>
<td>1000</td>
<td>Volts</td>
</tr>
<tr>
<td>VRMS</td>
<td>Maximum RMS voltage</td>
<td>35</td>
<td>70</td>
<td>140</td>
<td>280</td>
<td>420</td>
<td>560</td>
<td>700</td>
<td>Volts</td>
</tr>
<tr>
<td>VDC</td>
<td>Maximum DC blocking voltage</td>
<td>50</td>
<td>100</td>
<td>200</td>
<td>400</td>
<td>600</td>
<td>800</td>
<td>1000</td>
<td>Volts</td>
</tr>
<tr>
<td>I(AV)</td>
<td>Maximum average forward rectified current at Tj = 110°C</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Amps</td>
</tr>
<tr>
<td>IFSM</td>
<td>Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Amps</td>
</tr>
<tr>
<td>VF</td>
<td>Maximum instantaneous forward voltage at 1A</td>
<td>1.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Volts</td>
</tr>
<tr>
<td>IR</td>
<td>Maximum DC reverse current @TA = 25°C</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>µA</td>
</tr>
<tr>
<td>IR</td>
<td>Maximum DC reverse current @TA = 100°C</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>µA</td>
</tr>
<tr>
<td>Cj</td>
<td>Typical junction capacitance (Note 1)</td>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>pF</td>
</tr>
<tr>
<td>RJ</td>
<td>Typical thermal resistance (Note 2)</td>
<td>75</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>°C/W</td>
</tr>
<tr>
<td>TJ, TS</td>
<td>Operating and storage temperature range</td>
<td>-65 to +175</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>°C</td>
</tr>
</tbody>
</table>

Notes:
1. Measured at 1 MHz and applied VR = 4volts.
2. P.C.B. mounted with 0.2x0.2(5x5mm) copper pad areas.
GS1A~GS1M

**Forward current derating curve**

![Graph showing forward current derating curve with ambient temperature on the x-axis and average forward rectified current (A) on the y-axis. The graph illustrates how the current decreases as the temperature increases.]

**maximum non-repetitive forward surge current**

![Graph showing the maximum non-repetitive forward surge current with peak forward surge current (A) on the y-axis and number of cycles at 60 Hz on the x-axis. The graph includes a curve indicating single half sine-wave (JEDEC Method).]

**TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**

- **Instantaneous Forward Current, A** vs **Instantaneous Forward Voltage, V**
  - Ambient Temperature (°C)

- **Typical Junction Capacitance**
  - Junction Capacitance (pF) vs **Reverse Voltage, Volts**

**TYPICAL REVERSE CHARACTERISTICS**

- **Instantaneous Reverse Current, mA** vs **Percent of Peak Reverse Voltage, %**
  - Ambient Temperature (°C)

**TYPICAL TRANSIENT THERMAL IMPEDANCE**

- **Transient Thermal Impedance, Ω°C/W** vs **t, Pulse Duration, sec.**