RS801 THRU RS807

SINGLE-PHASE SILICON BRIDGE RECTIFIERS
Reverse Voltage – 50 to 1000 Volts
Forward Current – 8.0 Amperes

Features
- Low leakage
- Low forward voltage
- Mounting position: Any
- Surge overload rating: 250 amperes peak
- Ideal for printed circuit boards
- High forward surge current capability

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

<table>
<thead>
<tr>
<th>Symbols</th>
<th>RS 801</th>
<th>RS 802</th>
<th>RS 803</th>
<th>RS 804</th>
<th>RS 805</th>
<th>RS 806</th>
<th>RS 807</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum recurrent peak reverse voltage</td>
<td>V_{RPM}</td>
<td>50</td>
<td>100</td>
<td>200</td>
<td>400</td>
<td>600</td>
<td>800</td>
<td>1000</td>
</tr>
<tr>
<td>Maximum RMS bridge input voltage</td>
<td>V_{RMS}</td>
<td>35</td>
<td>70</td>
<td>140</td>
<td>280</td>
<td>420</td>
<td>560</td>
<td>700</td>
</tr>
<tr>
<td>Maximum DC blocking voltage</td>
<td>V_{DC}</td>
<td>50</td>
<td>100</td>
<td>200</td>
<td>400</td>
<td>600</td>
<td>800</td>
<td>1000</td>
</tr>
<tr>
<td>Maximum average forward rectified output current at T_c = 75°C with heat sink</td>
<td>I_o</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Amps</td>
</tr>
<tr>
<td>Peak forward surge current 8.3ms single half sine-wave superimposed on rated load</td>
<td>I_{FSM}</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>250</td>
<td>Amps</td>
</tr>
<tr>
<td>Maximum forward voltage drop per element at 8A DC</td>
<td>V_f</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.1</td>
<td>Volts</td>
</tr>
<tr>
<td>Maximum reverse current at rated DC blocking voltage per element @T_a = 25°C</td>
<td>I_{R}</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10</td>
<td>μAmps</td>
</tr>
<tr>
<td>@T_c = 100°C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.2</td>
<td>mAmps</td>
</tr>
<tr>
<td>Operating and storage temperature range</td>
<td>T_J, T_S</td>
<td>-55 to +150</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>°C</td>
</tr>
</tbody>
</table>
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**Typical Instantaneous Forward Characteristics**

- **Instantaneous Forward Voltage - V**
  - TC=150°C (TYP)
  - TC=25°C (TYP)
- **Instantaneous Forward Current - A**
  - 0.4, 0.1, 0.2, 0.5, 0.6

**Power Dissipation**

- **Average Rectified Forward Current - A**
- **Power Dissipation PF (W)**
- **Sine wave**
  - Tj=150°C

**Surge Forward Current Capability**

- **V_{ce}-Collector Emitter Voltage - V**
  - 8.3ms, 8.3ms
  - Sine wave
  - Non-repetitive
  - Tj=25°C, 1 cycle

**Typical Forward Current Derating Curve**

- **Average Forward Current (A)**
- **Case Temperature (°C)**
- **Number Of Cycle**
- **Power Dissipation PF (W)**

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