SCHOTTKY BARRIER RECTIFIER

VOLTAGE RANGE  20 to 50 Volts   CURRENT 50 Amperes

FEATURES
* Low switching noise
* Low forward voltage drop
* Low thermal resistance
* High current capability
* High switching capability
* High surge capability
* High reliability

MECHANICAL DATA
* Case: To-247 molded plastic
* Epoxy: Device has UL flammability classification 94V-O
* Lead: MIL-STD-202E method 208C guaranteed
* Mounting position: Any
* Weight: 5.1 grams

MAXIMUM RATINGS AND ELECTRICAL 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%.

MAXIMUM RATINGS (At TA = 25°C unless otherwise noted)

<table>
<thead>
<tr>
<th>RATINGS</th>
<th>SYMBOL</th>
<th>SR5020C</th>
<th>SR5030C</th>
<th>SR5035C</th>
<th>SR5040C</th>
<th>SR5045C</th>
<th>SR5050C</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Recurrent Peak Reverse Voltage</td>
<td>VRRM</td>
<td>20</td>
<td>30</td>
<td>35</td>
<td>40</td>
<td>45</td>
<td>50</td>
<td>Volts</td>
</tr>
<tr>
<td>Maximum RMS Voltage</td>
<td>Vrms</td>
<td>14</td>
<td>21</td>
<td>25</td>
<td>30</td>
<td>35</td>
<td>40</td>
<td>Volts</td>
</tr>
<tr>
<td>Maximum DC Blocking Voltage</td>
<td>Vdc</td>
<td>25</td>
<td>30</td>
<td>35</td>
<td>40</td>
<td>45</td>
<td>50</td>
<td>Volts</td>
</tr>
<tr>
<td>Maximum Average Forward Rectified Current at Derating Case Temperature</td>
<td>Io</td>
<td>20</td>
<td>30</td>
<td>35</td>
<td>40</td>
<td>45</td>
<td>50</td>
<td>Amps</td>
</tr>
<tr>
<td>Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)</td>
<td>IFSM</td>
<td>400</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Amps</td>
</tr>
<tr>
<td>Typical Thermal Resistance (Note 1)</td>
<td>RθJC</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>°C/W</td>
</tr>
<tr>
<td>Operating Temperature Range</td>
<td>TJ</td>
<td>-55 to +150</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>°C</td>
</tr>
<tr>
<td>Storage Temperature Range</td>
<td>Tstg</td>
<td>-55 to +150</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>°C</td>
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</table>

ELECTRICAL CHARACTERISTICS (At TA = 25°C unless otherwise noted)

<table>
<thead>
<tr>
<th>CHARACTERISTICS</th>
<th>SYMBOL</th>
<th>SR5020C</th>
<th>SR5030C</th>
<th>SR5035C</th>
<th>SR5040C</th>
<th>SR5045C</th>
<th>SR5050C</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Instantaneous Forward Voltage at 25.0A DC</td>
<td>VF</td>
<td>.65</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Volts</td>
</tr>
<tr>
<td>Maximum Average Reverse Current at Rated DC Blocking Voltage</td>
<td>Ir</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>mAmps</td>
</tr>
<tr>
<td></td>
<td>@Tc = 25°C</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>@Tc = 100°C</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>mAmps</td>
</tr>
</tbody>
</table>

NOTES : 1. Thermal Resistance Junction to Case.
RATING AND CHARACTERISTIC CURVES (SR5020C THRU SR5050C)

**FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE**

- **Average Forward Current, (A)**
- **Case Temperature, (°C)**
  - 0
  - 50
  - 100
  - 150

**FIG. 2 - TYPICAL REVERSE CHARACTERISTICS**

- **Instantaneous Reverse Current, (mA)**
- **Percent of Rated Peak Reverse Voltage, (%)**
  - 10
  - 1.0
  - 0.1
  - 0.01
  - 0.001

**FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**

- **Peak Forward Surge Current, (A)**
  - 600
  - 500
  - 400
  - 300
  - 200
  - 100
  - 0

**FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**

- **Instantaneous Forward Current, (A)**
  - 100
  - 10
  - 1

**Rectron**

- Single Phase Half Wave
- 60Hz Inductive or Resistive Load

**SR5020C~SR5045C**

- **Pulse Width=300us**
- **1% Duty Cycle**

**SR5050C**

- **Tj = 25° C**
- **Tc = 125° C**
- **Tc = 75° C**
- **Tc = 25° C**