SR1020CT THRU SR1060CT

SCHOTTKY BARRIER RECTIFIERS
Reverse Voltage – 20 to 60 Volts
Forward Current – 10 Amperes

Features
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Metal of silicon rectifier, majority carrier conduction
- Guard ring for transient protection
- High capability
- Low power loss, high efficiency
- High current capability, low forward voltage
- High surge capacity
- For use in low voltage, high frequency inverters free wheeling, and polarity protection applications

Mechanical Data
- Case: Molded plastic body, TO-220
- Terminals: Axial leads, solderable per MIL-STD-202, method 208
- Polarity: As marked
- Mounting Position: Any

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

<table>
<thead>
<tr>
<th>Symbol</th>
<th>SR1020CT</th>
<th>SR1030CT</th>
<th>SR1040CT</th>
<th>SR1050CT</th>
<th>SR1060CT</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum recurrent peak reverse voltage</td>
<td>VRM</td>
<td>20</td>
<td>30</td>
<td>40</td>
<td>50</td>
<td>60</td>
</tr>
<tr>
<td>Maximum RMS voltage</td>
<td>VRMS</td>
<td>14</td>
<td>21</td>
<td>28</td>
<td>35</td>
<td>42</td>
</tr>
<tr>
<td>Maximum DC blocking voltage</td>
<td>VDC</td>
<td>20</td>
<td>30</td>
<td>40</td>
<td>50</td>
<td>60</td>
</tr>
<tr>
<td>Maximum average forward rectified current</td>
<td>I(FAV)</td>
<td></td>
<td></td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peak forward surge current</td>
<td>IFSM</td>
<td></td>
<td></td>
<td>175</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.3mS single half sine-wave superimposed on rated load (JEDEC method)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum instantaneous forward voltage at 5.0 A</td>
<td>VF</td>
<td>0.55</td>
<td></td>
<td>0.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum reverse current at rated reverse voltage</td>
<td>IR</td>
<td></td>
<td></td>
<td>0.5</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>TC = 25°C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TC = 100°C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Typical junction capacitance (Note 1)</td>
<td>CJT</td>
<td></td>
<td></td>
<td>400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Typical thermal resistance (Note 2)</td>
<td>RθJC</td>
<td></td>
<td></td>
<td>3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating junction temperature range</td>
<td>TJ</td>
<td></td>
<td></td>
<td>-55 to +125</td>
<td>-55 to +150</td>
<td>°C</td>
</tr>
<tr>
<td>Storage temperature range</td>
<td>TS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-55 to +150</td>
</tr>
</tbody>
</table>

Notes:
1. Measured at 1MHz and applied reverse voltage of 4 Volts
2. Thermal Resistance from Junction to case per leg
SR1020CT THRU SR1060CT

Forward current derating curve

![Graph showing forward current derating curve.](image)

Maximum non-repetitive peak forward surge current

![Graph showing maximum non-repetitive peak forward surge current.](image)

Typical forward characteristics per leg

![Graph showing typical forward characteristics per leg.](image)

Typical junction capacitance per leg

![Graph showing typical junction capacitance per leg.](image)

Reverse voltage, V

![Graph showing reverse voltage.](image)

Instantaneous forward current, A

![Graph showing instantaneous forward current.](image)

Typical reverse characteristics per leg

![Graph showing typical reverse characteristics per leg.](image)

Percent of rated peak reverse voltage, %

![Graph showing percent of rated peak reverse voltage.](image)

Typical reverse current, mA

![Graph showing typical reverse current.](image)

Average forward current, A

![Graph showing average forward current.](image)

Number of cycles at 60Hz

![Graph showing number of cycles at 60Hz.](image)

SR1020CT-SR1040CT

SR1050CT-SR1060CT

Maximum non-repetitive peak forward surge current

![Graph showing maximum non-repetitive peak forward surge current.](image)

SR1020CT-SR1040CT

SR1050CT-SR1060CT

Number of cycles at 60Hz

![Graph showing number of cycles at 60Hz.](image)

SR1020CT-SR1040CT

SR1050CT-SR1060CT

Reverse voltage, V

![Graph showing reverse voltage.](image)

Instantaneous forward current, A

![Graph showing instantaneous forward current.](image)

Typical junction capacitance per leg

![Graph showing typical junction capacitance per leg.](image)

Junction capacitance, pF

![Graph showing junction capacitance.](image)

SR1020CT-SR1040CT

SR1050CT-SR1060CT

Instantaneous forward current, A

![Graph showing instantaneous forward current.](image)

Instantaneous forward voltage, V

![Graph showing instantaneous forward voltage.](image)