SR520 THRU SR5100

SCHOTTKY BARRIER RECTIFIERS
Reverse Voltage – 20 to 100 Volts
Forward Current – 5.0 Amperes

Features
- High current capability
- Metal to silicon rectifier, majority carrier conduction
- Low power loss, high efficiency
- Exceeds environmental standards of MIL-S-19500/228
- For use in low voltage, high frequency inverters free wheeling, and polarity protection applications

Mechanical Data
- Case: Molded plastic body, DO-201AD
- Epoxy: UL-94V-O rate flame retardant
- Terminals: Axial leads, solderable per MIL-STD-202, method 208 guaranteed
- Polarity: Color band denotes cathode end
- Mounting Position: Any

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>SR520</th>
<th>SR530</th>
<th>SR540</th>
<th>SR550</th>
<th>SR560</th>
<th>SR580</th>
<th>SR5100</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum recurrent peak reverse voltage</td>
<td>V_RRM</td>
<td>20</td>
<td>30</td>
<td>40</td>
<td>50</td>
<td>60</td>
<td>80</td>
<td>100</td>
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<tr>
<td>Maximum RMS voltage</td>
<td>V_RMS</td>
<td>14</td>
<td>21</td>
<td>28</td>
<td>35</td>
<td>42</td>
<td>56</td>
<td>70</td>
</tr>
<tr>
<td>Maximum DC blocking voltage</td>
<td>V_DC</td>
<td>20</td>
<td>30</td>
<td>40</td>
<td>50</td>
<td>60</td>
<td>80</td>
<td>100</td>
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<tr>
<td>Maximum average forward rectified current 0.375&quot; (9.5mm) lead length</td>
<td>I_AV</td>
<td>5.0</td>
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<tr>
<td>Peak forward surge current 8.3mS single half sine-wave superimposed on rated load (JEDEC method)</td>
<td>I_FSM</td>
<td></td>
<td>150</td>
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<tr>
<td>Maximum forward voltage at 5A DC</td>
<td>V_F</td>
<td></td>
<td>0.55</td>
<td>0.70</td>
<td>0.85</td>
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<tr>
<td>Maximum reverse current at rated DC blocking voltage</td>
<td>I_R</td>
<td></td>
<td></td>
<td>0.5</td>
<td></td>
<td>50</td>
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<tr>
<td>Typical junction capacitance (Note 1)</td>
<td>C_J</td>
<td></td>
<td>500</td>
<td></td>
<td>380</td>
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<tr>
<td>Typical thermal resistance (Note 2)</td>
<td>R_THA</td>
<td></td>
<td>15</td>
<td></td>
<td>10</td>
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<tr>
<td>Operating junction temperature range</td>
<td>T_J</td>
<td></td>
<td></td>
<td></td>
<td>125</td>
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<tr>
<td>Storage temperature range</td>
<td>T_S</td>
<td></td>
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<td>-50 to +125</td>
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</tbody>
</table>

Notes: (1) Measured at 1MHz and applied reverse voltage of 4 Volts
(2) Thermal Resistance from Junction to Ambient and from Junction to lead at 0.375"(9.5mm) lead length
P.C.B. mounted
SR520 THRU SR5100

**Forward Current Derating Curve**

- **SR500-SR5100**
- **SR520-SR540**

**Max Non-repetitive Peak Forward Surge Current**

- Peak Forward Surge Current, A
- Number Of Cycles at 60Hz
- Lead Temperature (°C)

**SR550-SR5100**

**Typical reverse characteristics**

- Percent of rated peak reverse voltage, %
- Instantaneous reverse current, milliamperes

**Typical forward characteristics**

- Instantaneous forward current, A
- Instantaneous forward voltage, V

**Typical Junction Capacitance**

- Capacitance, pF
- Reverse Voltage, V

**Notes:**

- Dated: 10/09/2003
- Subsidiary of Semtech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724
- SEMTECH ELECTRONICS LTD.