SR204 THRU SR20A

SCHOTTKY BARRIER RECTIFIERS
Reverse Voltage – 20 to 100 Volts
Forward Current – 2.0 Amperes
Features
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Metal silicon junction, majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss, High efficiency
- High current capability, low forward voltage drop
- High surge capability
- For use in low voltage, high frequency inverters free wheeling, and polarity protection applications
- High temperature soldering guaranteed: 250° /10 seconds at terminals, 0.375” (9.5mm) lead length, 5lb. (2.3kg) tension.

Mechanical Data
- Case: Molded plastic body, DO-41.
- Terminals: Axial leads, solderable per MIL-STD-750, method 2026
- 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 by 20%

<table>
<thead>
<tr>
<th></th>
<th>Symbols</th>
<th>SR 202</th>
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<th>SR 206</th>
<th>SR 208</th>
<th>SR 20A</th>
<th>Units</th>
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</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>
<td>V</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>57</td>
<td>71</td>
<td>V</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>
<td>V</td>
</tr>
<tr>
<td>Maximum average forward rectified current 0.375” (9.5mm) lead length at T_{c} = 75°C</td>
<td>I_{AV}</td>
<td>2.0</td>
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<td></td>
<td>A</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>50</td>
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<td></td>
<td>A</td>
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<tr>
<td>Maximum instantaneous forward voltage at 2 A (Note 1)</td>
<td>V_{F}</td>
<td>0.55</td>
<td>0.70</td>
<td>0.65</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>V</td>
</tr>
<tr>
<td>Maximum reverse current at rated reverse voltage (Note 1) T_{A} = 25°C</td>
<td>I_{R}</td>
<td>1.0</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>mA</td>
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<td>T_{A} = 100°C</td>
<td>10</td>
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<td></td>
<td>mA</td>
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<td>Typical junction capacitance (Note 2)</td>
<td>C_{tot}</td>
<td></td>
<td>170</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td>pF</td>
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<td>Typical thermal resistance (Note 3)</td>
<td>R_{JJA}</td>
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<td>35</td>
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<td></td>
<td></td>
<td></td>
<td>°C/W</td>
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<td>Operating junction temperature range</td>
<td>T_{J}</td>
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<td>-65 to +125</td>
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<td></td>
<td></td>
<td></td>
<td>°C</td>
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<td>Storage temperature range</td>
<td>T_{S}</td>
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<td>-65 to +150</td>
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<td></td>
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<td>°C</td>
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</table>

Notes:
1) Pulse test: 300μs pulse width, 1% duty cycle
2) Measured at 1MHz and applied reverse voltage of 4 Volts
3) Thermal Resistance from Junction to lead, and/or to ambient P.C.B, mounted with 0.375” (9.5mm) lead lengthWith 1.5x1.5” (36x36mm) copper pad.
**SR204 THRU SR20A**

**Fig. 1 - Forward Derating Curve**

- **Average Forward Current, A**
  - Lead Temperature, (°C)
  - 50: 0.2 A
  - 70: 0.15 A
  - 90: 0.1 A
  - 110: 0.07 A
  - 130: 0.05 A
  - 150: 0.03 A

**Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current**

- **Peak Forward Surge Current (Amperes)**
  - Number of Cycles at 60 Hz
  - 1: 50 A
  - 10: 40 A
  - 100: 30 A

**Fig. 3 - Typical Instantaneous Forward Characteristics**

- **Instantaneous Forward Current (Amperes)**
  - Instantaneous Forward Voltage (Volts)
  - 2: 0.1 A
  - 3: 0.2 A
  - 4: 0.3 A
  - 5: 0.4 A
  - 6: 0.5 A
  - 7: 0.6 A
  - 8: 0.7 A
  - 9: 0.8 A
  - 10: 0.9 A
  - 11: 1.0 A

**Fig. 4 - Typical Reverse Characteristics**

- **Instantaneous Reverse Current (Amperes)**
  - Instantaneous Reverse Voltage (Volts)
  - TJ=25°C
  - TJ=75°C
  - TJ=125°C

**Fig. 5 - Typical Junction Capacitance**

- **Junction Capacitance (pF)**
  - Reverse Voltage, Volts
  - 0: 600 pF
  - 1: 100 pF
  - 10: 10 pF
  - 100: 1 pF

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