SS12 THRU SS110

SURFACE MOUNT SCHOTTKY BARRIER RECTIFIERS
Reverse Voltage - 20 to 100 V
Forward Current - 1 A

Features
• Plastic package has Underwriters Laboratory
  Flammability Classification 94V-0
• For surface mounted applications
• Metal silicon junction, majority carrier conduction
• Built-in strain relief, ideal for automated placement
• Low power loss, high efficiency.
• High forward surge current capability

Mechanical Data
• Case: SMA (DO-214AC) molded plastic body
• Terminals: leads solderable per MIL-STD-750,
  Method 2026
• Polarity: color band denotes cathode end

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

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbols</th>
<th>SS12</th>
<th>SS13</th>
<th>SS14</th>
<th>SS15</th>
<th>SS16</th>
<th>SS18</th>
<th>SS110</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Repetitive 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>
</tr>
<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>
<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</td>
<td>$I_{F(AV)}$</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>Peak Forward Surge Current 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC Method)</td>
<td>$I_{FSM}$</td>
<td>40</td>
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<td></td>
<td>A</td>
</tr>
<tr>
<td>Maximum Instantaneous Forward Voltage at 1 A</td>
<td>$V_F$</td>
<td>0.55</td>
<td>0.75</td>
<td>0.85</td>
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<td></td>
<td>V</td>
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<tr>
<td>Maximum DC Reverse Current at Rated DC Blocking Voltage</td>
<td>$I_R$</td>
<td></td>
<td>0.5</td>
<td></td>
<td>6</td>
<td>5</td>
<td></td>
<td></td>
<td>mA</td>
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<tr>
<td>Typical Junction Capacitance 1)</td>
<td>$C_J$</td>
<td>110</td>
<td></td>
<td>90</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>pF</td>
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<tr>
<td>Typical Thermal Resistance 2)</td>
<td>$R_{IR}$</td>
<td>88</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>°C/W</td>
</tr>
<tr>
<td>Operating Junction Temperature Range</td>
<td>$T_J$</td>
<td>- 65 to + 125</td>
<td>- 65 to + 150</td>
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<td>°C</td>
<td></td>
<td></td>
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<tr>
<td>Storage Temperature Range</td>
<td>$T_{ST}$</td>
<td>- 65 to + 150</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>°C</td>
</tr>
</tbody>
</table>

1) Measured at 1MHz and applied reverse voltage of 4 V D.C.
2) P.C.B. mounted with 0.2 X 0.2" (5 X 5 mm) copper pad areas.
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Fig.1 - FORWARD CURRENT DERATING CURVE

- AVERAGE FORWARD RECTIFIED CURRENT, A
- AMBIENT TEMPERATURE, ('C)

Fig.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

- PEAK FORWARD SURGE CURRENT, A
- NUMBER OF CYCLES AT 60 Hz

Fig.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

- INSTANTANEOUS FORWARD CURRENT, A
- INSTANTANEOUS FORWARD VOLTAGE, V

Fig.4 - TYPICAL REVERSE CHARACTERISTICS

- INSTANTANEOUS REVERSE CURRENT, MILIAMPERES
- PERCENT OF RATED PEAK REVERSE VOLTAGE, %

Fig.5 - TYPICAL JUNCTION CAPACITANCE

- JUNCTION CAPACITANCE, pF
- REVERSE VOLTAGE, V

Fig.6 - TYPICAL TRANSIENT THERMAL IMPEDANCE

- TRANSIENT THERMAL IMPEDANCE, C/W
- PULSE DURATION, sec.