Schottky Barrier Rectifier

Features:

- Surface mount.
- Metal-semiconductor junction with guard ring.
- Epitaxial construction.
- Low forward voltage drop.
- High current capability.
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications.

Reverse Voltage - 40 V
Forward Current - 5 Amperes

SMC

Dimensions: Inches (Millimetres)

Mechanical Data

Case: Moulded plastic.
Polarity: Colour band denotes cathode.
Weight: 0.007 oz, 0.21 g.
Schottky Barrier Rectifier

Maximum Ratings and Electrical Characteristics

Rating 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%.

<table>
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<tr>
<th>Characteristics</th>
<th>Symbol</th>
<th>SS54</th>
<th>Unit</th>
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<tbody>
<tr>
<td>Maximum Recurrent Peak Reverse Voltage</td>
<td>$V_{RRM}$</td>
<td>40</td>
<td>V</td>
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<tr>
<td>Maximum RMS Voltage</td>
<td>$V_{RMS}$</td>
<td>28</td>
<td></td>
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<tr>
<td>Maximum DC Blocking Voltage</td>
<td>$V_{DC}$</td>
<td>40</td>
<td></td>
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<tr>
<td>Maximum Average Forward Rectified Current 0.375&quot; (9.5 mm) Lead Lengths at $T_L = 95°C$</td>
<td>$I_{(AV)}$</td>
<td>5</td>
<td>A</td>
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<tr>
<td>Peak Forward Surge Current 8.3 ms Single Half Sine-wave Super Imposed on Rated Load (JEDEC Method)</td>
<td>$I_{FSM}$</td>
<td>150</td>
<td></td>
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<tr>
<td>Maximum Forward Voltage at 5 A dc</td>
<td>$V_F$</td>
<td>0.55</td>
<td>V</td>
</tr>
<tr>
<td>Maximum DC Reverse Current at $T_J = 25°C$ Rated DC Blocking Voltage at $T_J = 100°C$</td>
<td>$I_R$</td>
<td>1</td>
<td>mA</td>
</tr>
<tr>
<td>Typical Junction Capacitance (Note 1)</td>
<td>$C_J$</td>
<td>500</td>
<td>pF</td>
</tr>
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<td>Typical Thermal Resistance (Note 2)</td>
<td>$R_{JJA}$</td>
<td>15</td>
<td>°C/W</td>
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<tr>
<td>Operating Temperature Range</td>
<td>$T_J$</td>
<td>-55 to +125</td>
<td>°C</td>
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<tr>
<td>Storage Temperature Range</td>
<td>$T_{STG}$</td>
<td>-55 to +150</td>
<td></td>
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</tbody>
</table>

Notes:
1. Measured at 1 MHz and applied reverse voltage of 4 V dc.
2. Thermal resistance junction to ambient.

Rating and Characteristics Curves

Forward Current Derating Curve

Maximum Non-Repetitive Surge Current
Schottky Barrier Rectifier

Rating and Characteristics Curves

Typical Junction Capacitance

Capacitance, (pF)

Reverse Voltage, Volts

Typical Forward Characteristics

Instantaneous Forward Current, (A)

Instantaneous Forward Voltage, Volts

Typical Reverse Characteristics

Percent of Rated Peak Reverse Voltage, (%)

Instantaneous Reverse Current (mA)

Reverse Voltage, Volts

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