SK52BD THRU SK56BD

SCHOTTKY BARRIER RECTIFIER
Reverse Voltage - 20 to 100 V
Forward Current - 5 A

Features
• Plastic package has Underwriters Laboratory Flammability Classification 94V-0
• Metal silicon junction, majority carrier conduction
• For surface mount applications
• Low power loss, high efficiency
• High current capability, low forward voltage drop
• Low profile package
• Built-in strain relief, ideal for automated placement
• For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

Mechanical Data
• Case: JEDEC SMB (DO-214AA) molded plastic body
• Terminals: solder plated, 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>SK52BD</th>
<th>SK53BD</th>
<th>SK54BD</th>
<th>SK55BD</th>
<th>SK56BD</th>
<th>Units</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>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>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>V</td>
</tr>
<tr>
<td>Maximum Average Forward Rectified Current 0.375&quot; (9.5 mm) Lead Length</td>
<td>I_{F(AV)}</td>
<td>5</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>150</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>Maximum Forward Voltage at 5 A</td>
<td>V_F</td>
<td>0.55</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>V</td>
</tr>
<tr>
<td>Maximum DC Reverse Current at Rated DC Blocking Voltage T_a = 25°C</td>
<td>I_{R}</td>
<td>0.5</td>
<td></td>
<td></td>
<td></td>
<td>mA</td>
<td></td>
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<tr>
<td></td>
<td>T_a = 100°C</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Typical Thermal Resistance</td>
<td>R_{JA}</td>
<td>55</td>
<td></td>
<td></td>
<td></td>
<td>°C/W</td>
<td></td>
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<tr>
<td>Operating and Storage Temperature Range</td>
<td>T_{j}, T_{stg}</td>
<td>-55 to +150</td>
<td></td>
<td></td>
<td></td>
<td>°C</td>
<td></td>
</tr>
</tbody>
</table>

1) Pulse test: 300 µs pulse width, 1% duty cycle
2) P.C.B mounted 0.55 X 0.55" (14 X 14 mm) copper pad areas
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FIG. 1-FORWARD CURRENT DERATING CURVE

FIG. 2-MAXIMUM NON-REPEATED PEAK FORWARD SURGE CURRENT

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

FIG. 4-TYPICAL REVERSE CHARACTERISTICS

FIG. 5-TYPICAL JUNCTION CAPACITANCE

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

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Dated: 21/02/2013 J B Rev: 01