KBPC300 THRU KBPC310

3.0A BRIDGE RECTIFIERS

Features

- Diffused junction
- High current capability
- High case dielectric strength
- High surge current capability
- Ideal for printed circuit board application
- Plastic material has underwriters laboratory flammability classification 94V-O

Mechanical Data

- Case: Molded Plastic
- Terminals: Plated leads solderable per MIL-STD-202, Method 208
- Polarity: Marked on body

Absolute Maximum Ratings and 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>
<thead>
<tr>
<th>Feature</th>
<th>Symbols</th>
<th>KBPC 300</th>
<th>KBPC 301</th>
<th>KBPC 302</th>
<th>KBPC 304</th>
<th>KBPC 306</th>
<th>KBPC 308</th>
<th>KBPC 310</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum repetitive peak reverse voltage</td>
<td>V_{RRM}</td>
<td>50</td>
<td>100</td>
<td>200</td>
<td>400</td>
<td>600</td>
<td>800</td>
<td>1000</td>
<td>V</td>
</tr>
<tr>
<td>Maximum RMS voltage</td>
<td>V_{RMS}</td>
<td>35</td>
<td>70</td>
<td>140</td>
<td>280</td>
<td>420</td>
<td>560</td>
<td>700</td>
<td>V</td>
</tr>
<tr>
<td>Maximum DC blocking voltage</td>
<td>V_{DC}</td>
<td>50</td>
<td>100</td>
<td>200</td>
<td>400</td>
<td>600</td>
<td>800</td>
<td>1000</td>
<td>V</td>
</tr>
<tr>
<td>Average rectified output current (note1) at ( T_{C} = 50^\circ\text{C} )</td>
<td>I_{O}</td>
<td>3.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>Non-repetitive Peak forward surge current at 8.3ms single half sine wave superimposed on rated load (JEDEC Method)</td>
<td>I_{FSM}</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>50</td>
<td></td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>Maximum instantaneous forward voltage drop per leg at 1.5A</td>
<td>V_{F}</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.2</td>
<td>V</td>
</tr>
<tr>
<td>Maximum DC reverse current at rated DC blocking voltage per leg</td>
<td>( T_{C} = 25^\circ\text{C} )</td>
<td>( T_{C} = 100^\circ\text{C} )</td>
<td>I_{R}</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td>1.0</td>
<td>μA</td>
</tr>
<tr>
<td>Rating for fusing (t&lt;8.3ms)(note 2)</td>
<td>I^{2}t</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10</td>
<td>A^{2}s</td>
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<tr>
<td>Typical junction capacitance (note 3)</td>
<td>C_{j}</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>55</td>
<td>pF</td>
</tr>
<tr>
<td>Typical thermal resistance per leg (note 4)</td>
<td>R_{JUC}</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>25</td>
<td>K/W</td>
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<tr>
<td>Operating junction and storage temperature range</td>
<td>T_{J,STG}</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-65 to +125</td>
<td>°C</td>
</tr>
</tbody>
</table>

Notes: 1. Mounted on metal chassis
2. Non-repetitive, for t>1ms and <8.3ms
3. Measured at 1.0MHz and applied reverse voltage of 4.0V.DC
4. Thermal resistance junction to case per element
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Forward Current Derating Curve

- Average Forward Output Current, A
- Case Temperature (°C)

Max Non-repetitive Peak Forward Surge Current

- Peak Forward Surge Current, A
- Number Of Cycles at 60 Hz

Typical Forward Characteristics, per element

- Forward Voltage, V
- Forward Current, A

Typical Reverse Characteristics, per element

- Reverse Current, I, A
- Percent of Rated Peak Reverse Voltage, %