KBPC25005~KBPC2510

HIGH CURRENT SINGLE-PHASE SILICON BRIDGE RECTIFIERS

REVERSE VOLTAGE: 50V to 1000V
FORWARD CURRENT: 25A

Features
- Surge overload 300 Ampere peak
- Low power loss, high efficiency
- Low reverse leakage current

Absolute Maximum Ratings and Characteristics
Rating at 25°C ambient temperature unless otherwise specified. resistive or inductive load 60 Hz., For capacitive load current by 20%.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>KBPC 2505</th>
<th>KBPC 2501</th>
<th>KBPC 2502</th>
<th>KBPC 2504</th>
<th>KBPC 2506</th>
<th>KBPC 2508</th>
<th>KBPC 2510</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Recurrent Peak Reverse Voltage</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>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>50</td>
<td>100</td>
<td>200</td>
<td>400</td>
<td>600</td>
<td>800</td>
<td>1000</td>
<td>V</td>
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<tr>
<td>Maximum Average Forward Rectified Current at $T_C = 55^\circ C$</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<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</td>
<td>300</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>Maximum Forward Voltage at 12.5A DC and 25?</td>
<td></td>
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<td></td>
<td></td>
<td>1.2</td>
<td></td>
<td></td>
<td>V</td>
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<tr>
<td>Maximum Reverse Current at $T_A = 25^\circ C$ at Rated DC Blocking Voltage $T_A = 125^\circ C$</td>
<td>10</td>
<td>1000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>uA</td>
</tr>
<tr>
<td>Typical Junction Capacitance (Note 1)</td>
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<td></td>
<td></td>
<td></td>
<td>300</td>
<td></td>
<td></td>
<td>pF</td>
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<td>Typical Thermal Resistance (Note 2)</td>
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<td>1.9</td>
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<td>?/W</td>
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<td>Operating Temperature Range $T_J$</td>
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<td></td>
<td></td>
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<td>-55 to +125</td>
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<td>°C</td>
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<td>Storage Temperature Range $T_S$</td>
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<td>-55 to +150</td>
<td></td>
<td>°C</td>
</tr>
</tbody>
</table>

Notes:
1. Measured at 1 MHz and applied reverse voltage of 4.0VDC.
2. Thermal resistance from junction t case per leg.
RATINGS AND CHARACTERISTIC CURVES

FIG.1-MAXIMUM FORWARD SURGE CURRENT

INSTANTANEOUS FORWARD VOLTAGE, VOLTS

FIG.2-DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

NUMBER OF CYCLES AT 60 Hz

TEMPERATURE, (°C)

FIG.3-TYPICAL FORWARD CHARACTERISTICS

INSTANTANEOUS FORWARD VOLTAGE, VOLTS

FIG 4. Typical Reverse Leakage Characteristics

PERCENT OF RATED PEAK REVERSE VOLTS (%)