BR305 THRU BR310

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>Absolute Maximum Ratings</th>
<th>Symbols</th>
<th>BR305</th>
<th>BR31</th>
<th>BR32</th>
<th>BR34</th>
<th>BR36</th>
<th>BR38</th>
<th>BR310</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 $T_J = 50°C$</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 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>1.2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>V</td>
</tr>
<tr>
<td>Maximum DC reverse current at rated DC blocking voltage per leg</td>
<td>$I_R$</td>
<td>10</td>
<td>1.0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>uA</td>
</tr>
<tr>
<td>Rating for fusing (t&lt;8.3ms)(note 2)</td>
<td>$I^2t$</td>
<td>10</td>
<td>1.0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>A²s</td>
</tr>
<tr>
<td>Typical junction capacitance(note3)</td>
<td>$C_j$</td>
<td>55</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>pF</td>
</tr>
<tr>
<td>Typical thermal resistance per leg (note 4)</td>
<td>$R_{JJC}$</td>
<td>25</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>K/W</td>
</tr>
<tr>
<td>Operating junction and storage temperature range</td>
<td>$T_J , T_{STG}$</td>
<td>-65 to +125</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</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
BR305 THRU BR310

**Forward Current Derating Curve**

- Average Forward Output Current, A
- Case Temperature (°C)
- Mounted on PC board
- Mounted on metal board
- Resistive or inductive load

**Max Non-repetitive Peak Forward Surge Current**

- Peak Forward Surge Current, A
- Number Of Cycles at 60 Hz
- Tc=50°C
- single half sine-wave
- JEDEC method

**Typical Forward Characteristics, per element**

- Forward Voltage, V
- Forward Current, A
- Tj=25°C
- Pulse width=300μs

**Typical Reverse Characteristics, per element**

- Reverse Current, I
- Reverse Current, A
- Percent of Rated Peak Reverse Voltage, %
- Tj=100°C
- Tj=25°C