HER801 THRU HER808

GLASS PASSIVATED HIGH EFFICIENCY RECTIFIERS

Reverse Voltage – 50 to 1000 Volts
Forward Current – 8.0 Amperes

Features
- Plastic package has Underwriters Laboratory
  Flammability Classification 94V-0 utilizing
  Flame Retardant Epoxy Molding Compound
- Low power loss, high efficiency
- Low forward voltage, high current capability
- High surge capacity
- Ultra Fast recovery times, high voltage

Mechanical Data
- **Case:** Molded plastic TO-220A
- **Mounting position:** Any
- **Terminals:** Leads solderable per MIL-STD-202, method 208 guaranteed
- **Polarity:** as marked

Maximum Ratings and Electrical Characteristics
Ratings at 25°C ambient temperature unless otherwise specified. Single-phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

<table>
<thead>
<tr>
<th>Symbols</th>
<th>HER 801</th>
<th>HER 802</th>
<th>HER 803</th>
<th>HER 804</th>
<th>HER 805</th>
<th>HER 806</th>
<th>HER 807</th>
<th>HER 808</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum recurrent peak reverse voltage</td>
<td>$V_{RRM}$</td>
<td>50</td>
<td>100</td>
<td>200</td>
<td>300</td>
<td>400</td>
<td>600</td>
<td>800</td>
<td>1000</td>
</tr>
<tr>
<td>Maximum RMS voltage</td>
<td>$V_{RMS}$</td>
<td>35</td>
<td>70</td>
<td>140</td>
<td>210</td>
<td>280</td>
<td>420</td>
<td>560</td>
<td>700</td>
</tr>
<tr>
<td>Maximum DC blocking voltage</td>
<td>$V_{DC}$</td>
<td>50</td>
<td>100</td>
<td>200</td>
<td>300</td>
<td>400</td>
<td>600</td>
<td>800</td>
<td>1000</td>
</tr>
<tr>
<td>Maximum average forward rectified current .375'(9.5mm) lead length at $T_C = 100°C$</td>
<td>$I_{AV}$</td>
<td>8.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td>A</td>
</tr>
<tr>
<td>Peak forward surge current , 8.3ms 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></td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>Maximum forward voltage @ 8.0A</td>
<td>$V_F$</td>
<td>1.0</td>
<td>1.3</td>
<td>1.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>V</td>
</tr>
<tr>
<td>Maximum reverse current @ $T_A = 25°C$ at rated DC blocking voltage @ $T_A = 125°C$</td>
<td>$I_R$</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>uA</td>
</tr>
<tr>
<td>Typical junction capacitance (Note 1)</td>
<td>$C_J$</td>
<td>80</td>
<td></td>
<td>50</td>
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<td></td>
<td></td>
<td></td>
<td>pF</td>
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<tr>
<td>Maximum reverse recovery time (Note 2)</td>
<td>$T_{rr}$</td>
<td>50</td>
<td></td>
<td>80</td>
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<td></td>
<td></td>
<td></td>
<td>nS</td>
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<tr>
<td>Typical thermal resistance (Note3)</td>
<td>$R_{θJC}$</td>
<td>3.0</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>°C/W</td>
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<tr>
<td>Operating temperature range</td>
<td>$T_J$</td>
<td>-55 to +150</td>
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<td></td>
<td></td>
<td></td>
<td>°C</td>
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<tr>
<td>Storage temperature range</td>
<td>$T_S$</td>
<td>-55 to +150</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>°C</td>
</tr>
</tbody>
</table>

Note: 1. Measured at 1 MHz and applied reverse voltage of 4.0 Volts D.C.
2. Reverse recovery test conditions: $I_F = 0.5A$, $I_R = 1.0A$, $I_{RR} = 0.25A$.
3. Thermal Resistance from junction to case mounted on heat sink.
RATINGS AND CHARACTERISTIC CURVES

REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

NOTES: 1. Rise Time=7ns max. Input Impedance=1 megohm 22 pf
2. Rise Time=10ns max. Source Impedance=50 ohms

MAXIMUM FORWARD CURRENT DERATING CURVE

CASE TEMPERATURE, °C

Fig. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

Fig. 6 - TYPICAL JUNCTION CAPACITANCE

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