HER301 THRU HER308

HIGH EFFICIENCY RECTIFIERS
Reverse Voltage – 50 to 1000 Volts
Forward Current – 3.0 Amperes

Features
- Plastic package has Underwriters Laboratory
  Flammability Classification 94V-O utilizing
  Flame Retardant Epoxy Molding Compound.
- Void-free Plastic in DO-201AD package.
- 3.0 amperes operation at Ta = 55°C with no
  thermal runaway
- Ultra Fast switching for high efficiency.

Mechanical Data
- Case: Molded plastic, DO-201AD
- Polarity: Band denotes cathode
- Lead: Axial leads, solderable per MIL-STD-202 method 208 guaranteed
- Mounting Position: Any

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS
Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load.

<table>
<thead>
<tr>
<th>Symbols</th>
<th>HER301</th>
<th>HER302</th>
<th>HER303</th>
<th>HER304</th>
<th>HER305</th>
<th>HER306</th>
<th>HER307</th>
<th>HER308</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>300</td>
<td>400</td>
<td>600</td>
<td>800</td>
<td>1000  Volts</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   Volts</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  Volts</td>
</tr>
<tr>
<td>Maximum average forward rectified current at T_a = 55°C</td>
<td>I_o</td>
<td>3.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Amps</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></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>150</td>
<td>Amps</td>
</tr>
<tr>
<td>Maximum instantaneous forward voltage at 3.0A DC</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>Volts</td>
</tr>
<tr>
<td>Maximum reverse current at rated reverse voltage T_j = 25°C</td>
<td>I_R</td>
<td></td>
<td></td>
<td></td>
<td>10</td>
<td></td>
<td></td>
<td>500</td>
<td>µAmps</td>
</tr>
<tr>
<td>Maximum reverse recovery time (Note 1)</td>
<td>T_{rr}</td>
<td>50</td>
<td></td>
<td>75</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>nSec</td>
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<tr>
<td>Typical junction capacitance (Note 2)</td>
<td>C_j</td>
<td>75</td>
<td></td>
<td>50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>pF</td>
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<td>Typical junction resistance (Note 3)</td>
<td>R_{JUA}</td>
<td>60</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>°C/W</td>
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<tr>
<td>Operating and storage temperature range</td>
<td>T_J, T_STG</td>
<td></td>
<td></td>
<td>-55 to +150</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>°C</td>
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</tbody>
</table>

Notes:
1. Test Conditions: I_{F} = 0.5A, I_{R} = -1.0A, I_{RR} = -0.25A.
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
3. Thermal resistance from junction to ambient and from junction to lead length 0.375"(9.5mm) P.C.B. mounted.
HER301 THRU HER308

**REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM**

**PEAK FORWARD SURGE CURRENT**

**TYPICAL FORWARD CURRENT DERATING**

**FORWARD CHARACTERISTICS**

**TYPICAL REVERSE LEAKAGE CHARACTERISTICS**

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