HER301 - HER308

HIGH EFFICIENT RECTIFIER DIODES

PRV : 50 - 1000 Volts
Io : 3.0 Amperes

FEATURES:
* High current capability
* High surge current capability
* High reliability
* Low reverse current
* Low forward voltage drop
* Fast switching for high efficiency

MECHANICAL DATA:
* Case : DO-201AD  Molded plastic
* Epoxy : UL94V-O rate flame retardant
* Lead : Axial lead solderable per MIL-STD-202, Method 208 guaranteed
* Polarity : Color band denotes cathode end
* Mounting position : Any
* Weight : 1.16 grams

MAXIMUM RATINGS AND ELECTRICAL 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>RATING</th>
<th>SYMBOL</th>
<th>HER 301</th>
<th>HER 302</th>
<th>HER 303</th>
<th>HER 304</th>
<th>HER 305</th>
<th>HER 306</th>
<th>HER 307</th>
<th>HER 308</th>
<th>UNIT</th>
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</thead>
<tbody>
<tr>
<td>Maximum Recurrent Peak Reverse Voltage</td>
<td>VRPM</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>
<td>V</td>
</tr>
<tr>
<td>Maximum RMS Voltage</td>
<td>VRMS</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>
<td>V</td>
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<tr>
<td>Maximum DC Blocking Voltage</td>
<td>VDC</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>
<td>V</td>
</tr>
<tr>
<td>Maximum Average Forward Current</td>
<td>IF(AV)</td>
<td>3.0</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>A</td>
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<tr>
<td>0.375&quot;(9.5mm) Lead Length, Ta = 55 °C</td>
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<tr>
<td>Maximum Peak Forward Surge Current, 8.3ms Single half sine wave superimposed on rated load (JEDEC Method)</td>
<td>IFSM</td>
<td>150</td>
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<td>A</td>
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<tr>
<td>Maximum Forward Voltage at IF = 3.0 A</td>
<td>VF</td>
<td>1.1</td>
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<td>1.7</td>
<td>V</td>
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<tr>
<td>at Rated DC Blocking Voltage</td>
<td>IR(H)</td>
<td>10</td>
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<td></td>
<td></td>
<td></td>
<td>μA</td>
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<tr>
<td>Maximum Reverse Recovery Time (Note 1)</td>
<td>Trr</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>75</td>
<td></td>
<td>ns</td>
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<td>Typical Junction Capacitance (Note 2)</td>
<td>CJ</td>
<td>50</td>
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<td></td>
<td></td>
<td></td>
<td>pf</td>
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<td>Junction Temperature Range</td>
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<td>-65 to +150</td>
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<td></td>
<td>°C</td>
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<tr>
<td>Storage Temperature Range</td>
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<td>-65 to +150</td>
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<td></td>
<td>°C</td>
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</table>

Notes:
(1) Reverse Recovery Test Conditions : IF = 0.5 A, IR = 1.0 A, Irr = 0.25 A.
(2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Vdc
RATING AND CHARACTERISTIC CURVES (HER301 - HER308)

FIG.1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

NOTES: 1. Rise Time = 7 ns max., Input Impedance = 1 megohm, 22 pF.
2. Rise time = 10 ns max., Source Impedance = 50 ohms.
3. All Resistors = Non-inductive Types.

FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

FIG.4 - TYPICAL FORWARD CHARACTERISTICS

FIG.5 - TYPICAL REVERSE CHARACTERISTICS