US1A THRU US1M
SURFACE MOUNT ULTRA FAST RECTIFIER
Reverse Voltage - 50 to 1000 Volts  Forward Current - 1.0 Ampere

FEATURES
The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
For surface mounted applications
Ultra fast switching for high efficiency
Low reverse leakage
Built-in strain relief, ideal for automated placement
High forward surge current capability
High temperature soldering guaranteed
250°C/10 seconds at terminals

MECHANICAL DATA
Case: JEDEC DO-214AC molded plastic body
Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight: 0.083 grams

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 current derate by 20%.

<table>
<thead>
<tr>
<th>SYMBOLS</th>
<th>US1A</th>
<th>US1B</th>
<th>US1D</th>
<th>US1G</th>
<th>US1J</th>
<th>US1K</th>
<th>US1M</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum repetitive peak reverse voltage</td>
<td>VRRM</td>
<td>50</td>
<td>100</td>
<td>200</td>
<td>400</td>
<td>600</td>
<td>800</td>
<td>1000 VOLTS</td>
</tr>
<tr>
<td>Maximum RMS voltage</td>
<td>VRMS</td>
<td>35</td>
<td>70</td>
<td>140</td>
<td>280</td>
<td>420</td>
<td>560</td>
<td>700 VOLTS</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>400</td>
<td>600</td>
<td>800</td>
<td>1000 VOLTS</td>
</tr>
<tr>
<td>Maximum average forward rectified current at TA=55°C</td>
<td>IAV</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Amp</td>
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<tr>
<td>Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)</td>
<td>IFSM</td>
<td>30.0</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Amps</td>
</tr>
<tr>
<td>Maximum instantaneous forward voltage at 1.0A</td>
<td>VR</td>
<td>1.0</td>
<td>1.3</td>
<td>1.7</td>
<td></td>
<td></td>
<td></td>
<td>Volts</td>
</tr>
<tr>
<td>Maximum DC reverse current at rated DC blocking voltage</td>
<td>IR</td>
<td></td>
<td>5.0</td>
<td>50.0</td>
<td></td>
<td></td>
<td></td>
<td>uA</td>
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<tr>
<td>Maximum reverse recovery time (NOTE 1)</td>
<td>TR</td>
<td>50</td>
<td>75</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ns</td>
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<td>Typical junction capacitance (NOTE 2)</td>
<td>CJ</td>
<td></td>
<td>15.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>pF</td>
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<td>Typical thermal resistance (NOTE 3)</td>
<td>RJJA</td>
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<td>50.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>°C/W</td>
</tr>
<tr>
<td>Operating junction and storage temperature range</td>
<td>TJSTG</td>
<td>-65 to +150</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>°C</td>
</tr>
</tbody>
</table>

Note: 1. Reverse recovery condition IR=0.5A, VR=1.0A, VR=0.25A
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
3. P.C.B. mounted with 0.2x0.2" (5.0x5.0mm) copper pad areas
RATINGS AND CHARACTERISTIC CURVES US1A THRU US1M

FIG. 1- FORWARD CURRENT DERATING CURVE

FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

FIG. 4-TYPICAL REVERSE CHARACTERISTICS

FIG. 5-TYPICAL JUNCTION CAPACITANCE

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

Note: Specification is subject to change without further notice. For more details and updates, please visit our website.