Super Fast Recovery Diode
RF1501TF3S

- **Series**
  Standard Fast Recovery

- **Applications**
  General rectification

- **Features**
  1) Ultra low switching loss
  2) High current overload capacity

- **Construction**
  Silicon epitaxial planer

### Dimensions (Unit: mm)

![Diode Dimensions Diagram]

### Structure

![Diode Structure Diagram]

### Absolute maximum ratings (Tc=25°C)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Conditions</th>
<th>Limits</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repetitive peak reverse voltage</td>
<td>V&lt;sub&gt;RM&lt;/sub&gt;</td>
<td>Duty≤0.5</td>
<td>350</td>
<td>V</td>
</tr>
<tr>
<td>Reverse voltage</td>
<td>V&lt;sub&gt;R&lt;/sub&gt;</td>
<td>Direct voltage</td>
<td>300</td>
<td>V</td>
</tr>
<tr>
<td>Average rectified forward current</td>
<td>Io</td>
<td>60Hz half sin wave, Resistance load, Tc=37°C</td>
<td>20</td>
<td>A</td>
</tr>
<tr>
<td>Forward current surge peak</td>
<td>I&lt;sub&gt;FSM&lt;/sub&gt;</td>
<td>60Hz half sin wave, Non-repetitive one cycle peak value, Tj=25°C</td>
<td>100</td>
<td>A</td>
</tr>
<tr>
<td>Junction temperature</td>
<td>Tj</td>
<td></td>
<td>150</td>
<td>°C</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>T&lt;sub&gt;tstg&lt;/sub&gt;</td>
<td></td>
<td>-55 to +150</td>
<td>°C</td>
</tr>
</tbody>
</table>

### Electrical characteristics (Tj=25°C)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Conditions</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forward voltage</td>
<td>V&lt;sub&gt;f&lt;/sub&gt;</td>
<td>I&lt;sub&gt;f&lt;/sub&gt;=20A</td>
<td>—</td>
<td>1.35</td>
<td>1.5</td>
<td>V</td>
</tr>
<tr>
<td>Reverse current</td>
<td>I&lt;sub&gt;r&lt;/sub&gt;</td>
<td>V&lt;sub&gt;rm&lt;/sub&gt;=300V</td>
<td>—</td>
<td>0.06</td>
<td>10</td>
<td>μA</td>
</tr>
<tr>
<td>Reverse recovery time</td>
<td>tr</td>
<td>I&lt;sub&gt;f&lt;/sub&gt;=0.5A, I&lt;sub&gt;r&lt;/sub&gt;=1A, Ir=0.25×I&lt;sub&gt;r&lt;/sub&gt;</td>
<td>—</td>
<td>22</td>
<td>30</td>
<td>ns</td>
</tr>
<tr>
<td>Thermal resistance</td>
<td>R&lt;sub&gt;th&lt;/sub&gt;(j-c)</td>
<td>junction to case</td>
<td>—</td>
<td>—</td>
<td>3</td>
<td>°C/W</td>
</tr>
</tbody>
</table>
RF1501TF3S Data Sheet

FORWARD VOLTAGE: $V_F (mV)$

FORWARD CURRENT: $I_F (A)$

REVERSE VOLTAGE: $V_R (V)$

CAPACITANCE BETWEEN TERMINALS: $C_t (pF)$

REVERSE CURRENT: $I_R (nA)$

DISPERSION MAP

$V_F$ DISPERSION MAP

$I_R$ DISPERSION MAP

$C_t$ DISPERSION MAP
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