**Features**

- Low forward voltage drop
- High current capability
- High reliability
- High surge current capability

**Mechanical Data**

- Case: Molded plastic DO-201AD
- Epoxy: UL 94V-O rate flame retardant
- Lead: Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- Polarity: Color band denotes cathode end
- High temperature soldering guaranteed: 250°C/10 seconds .375" (9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- Mounting position: Any
- Weight: 0.041 ounce, 1.15 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, derate current by 20%

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbols</th>
<th>SF61</th>
<th>SF62</th>
<th>SF63</th>
<th>SF64</th>
<th>SF65</th>
<th>SF66</th>
<th>SF67</th>
<th>SF68</th>
<th>SF69</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum repetitive peak reverse voltage</td>
<td>$V_{\text{RMS}}$</td>
<td>50</td>
<td>100</td>
<td>150</td>
<td>200</td>
<td>300</td>
<td>400</td>
<td>600</td>
<td>800</td>
<td>1000</td>
<td>Volts</td>
</tr>
<tr>
<td>Maximum RMS voltage</td>
<td>$V_{\text{RMS}}$</td>
<td>35</td>
<td>70</td>
<td>105</td>
<td>140</td>
<td>210</td>
<td>280</td>
<td>420</td>
<td>560</td>
<td>700</td>
<td>Volts</td>
</tr>
<tr>
<td>Maximum DC blocking voltage</td>
<td>$V_{\text{DC}}$</td>
<td>50</td>
<td>100</td>
<td>150</td>
<td>200</td>
<td>300</td>
<td>400</td>
<td>600</td>
<td>800</td>
<td>1000</td>
<td>Volts</td>
</tr>
<tr>
<td>Maximum average forward rectified current</td>
<td>$I_{\text{AVG}}$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6.0</td>
<td></td>
<td>Amps</td>
</tr>
<tr>
<td>.375&quot; (9.5mm) lead length @ $T_{A}=55^\circ$C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)</td>
<td>$I_{\text{SM}}$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>150.0</td>
<td></td>
<td>Amps</td>
</tr>
<tr>
<td>Maximum instantaneous forward voltage @ 6.0A DC</td>
<td>$V_{F}$</td>
<td>0.975</td>
<td></td>
<td>1.3</td>
<td></td>
<td>1.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Volts</td>
</tr>
<tr>
<td>Maximum DC reverse current at rated DC blocking voltage</td>
<td>$I_{R}$</td>
<td></td>
<td></td>
<td>5.0</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>uA</td>
</tr>
<tr>
<td>@ $T_{A}=25^\circ$C</td>
<td></td>
<td></td>
<td></td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>@ $T_{A}=125^\circ$C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum reverse recovery time (Note 1)</td>
<td>$t_{rr}$</td>
<td></td>
<td></td>
<td>35</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>nS</td>
</tr>
<tr>
<td>Typical junction capacitance (Note 2)</td>
<td>$C_{j}$</td>
<td>115</td>
<td></td>
<td></td>
<td></td>
<td>60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>pF</td>
</tr>
<tr>
<td>Typical thermal resistance</td>
<td>$R_{th}$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>20</td>
<td></td>
<td>°C/W</td>
</tr>
<tr>
<td>$R_{th}$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating temperature range</td>
<td>$T_{j}$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-65</td>
<td>150</td>
<td>°C</td>
</tr>
<tr>
<td>Storage temperature range</td>
<td>$T_{s}$</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-65</td>
<td>150</td>
<td>°C</td>
</tr>
</tbody>
</table>

**Notes:**

1. Reverse Recovery 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 V D.C.
RATINGS AND CHARACTERISTIC CURVES

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

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

**FIG. 2- MAXIMUM AVERAGE FORWARD CURRENT DERATING**

- **Notes:**
  - Single Phase
  - Half Wave 60Hz
  - Resistive or Inductive Load
  - Lead 0.375" (9.5mm)
  - Lead Length

**FIG. 3- TYPICAL REVERSE CHARACTERISTICS**

- **Graphs:**
  - Tj=150°C
  - Tj=125°C
  - Tj=25°C

**FIG. 4- TYPICAL FORWARD CHARACTERISTICS**

- **Graphs:**
  - Tj=25°C
  - Plate Width: 300µm
  - 1% Duty Cycle

**FIG. 5- MAXIMUM NON-REPEETITIVE FORWARD SURGE CURRENT**

- **Graphs:**
  - 8.3ms Single Half Sine Wave

**FIG. 6- TYPICAL JUNCTION CAPACITANCE**

- **Graphs:**
  - Tj=25°C