GLASS PASSIVATED SUPER FAST RECTIFIER

VOLTAGE RANGE 50 to 200 Volts CURRENT 16 Ampere

FEATURES
* Low switching noise
* Low forward voltage drop
* Low thermal resistance
* High current capability
* Super fast switching speed
* High reliability
* Good for switching mode circuit

MECHANICAL DATA
* Case: TO-220A molded plastic
* Epoxy: Device has UL flammability classification 94V-O
* Lead: MIL-STD-202E method 208C guaranteed
* Mounting position: Any
* Weight: 2.24 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS
Ratings 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%.

MAXIMUM RATINGS (@T_a=25 °C unless otherwise noted)

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>SF161</th>
<th>SF162</th>
<th>SF163</th>
<th>SF164</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>V_{RRM}</td>
<td>50</td>
<td>100</td>
<td>150</td>
<td>200</td>
<td>Volts</td>
</tr>
<tr>
<td>V_{RMS}</td>
<td>35</td>
<td>70</td>
<td>105</td>
<td>140</td>
<td>Volts</td>
</tr>
<tr>
<td>V_{DC}</td>
<td>50</td>
<td>100</td>
<td>150</td>
<td>200</td>
<td>Volts</td>
</tr>
<tr>
<td>I_D @ T_a = 100°C</td>
<td>16.0</td>
<td>150</td>
<td>150</td>
<td>200</td>
<td>Amps</td>
</tr>
<tr>
<td>I_FSM</td>
<td>250</td>
<td>Amps</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R_{0JA}</td>
<td>16</td>
<td>°C/W</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R_{0JC}</td>
<td>1.2</td>
<td>°C/W</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C_J</td>
<td>175</td>
<td>pF</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T_J, T_{STG}</td>
<td>-55 to + 150</td>
<td>°C</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ELECTRICAL CHARACTERISTICS (@T_a=25 °C unless otherwise noted)

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>SF161</th>
<th>SF162</th>
<th>SF163</th>
<th>SF164</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>V_FSM</td>
<td>0.975</td>
<td>Volts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I_L</td>
<td>10</td>
<td>μAmps</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I_R (Note 1)</td>
<td>500</td>
<td>nSec</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>tr_r</td>
<td>35</td>
<td>nSec</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTES:
1. Test Conditions: I_T = 0.5A, I_L = -1.0A, I_R = -0.25A
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
4. Typical Thermal Resistance from junction to ambient and from junction to case on heat-sink mounted.
5. "Fully ROHS complaint", "100% Sn plating (Pb-free)"

2006-11
RATING AND CHARACTERISTICS CURVES (SF161 THRU SF164)

**Fig. 1** Typical Forward Current Derating Curve

**Fig. 2** Typical Instantaneous Forward Characteristics

**Fig. 3** Typical Reverse Characteristics

**Fig. 4** Typical Junction Capacitance

**Fig. 5** Maximum Non-Repetitive Forward Surge Current

Single Phase Half Wave
60 Hz Inductive or Resitive Load

T<sub>A</sub> = 25 °C
Pulse Width = 300mS
1% Duty Cycle

T<sub>j</sub> = 25 °C
DISCLAIMER NOTICE

Rectron Inc reserves the right to make changes without notice to any product specification herein, to make corrections, modifications, enhancements or other changes. Rectron Inc or anyone on its behalf assumes no responsibility or liability for any errors or inaccuracies. Data sheet specifications and its information contained are intended to provide a product description only. "Typical" parameters which may be included on RECTRON data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. Rectron Inc does not assume any liability arising out of the application or use of any product or circuit.

Rectron products are not designed, intended or authorized for use in medical, life-saving implant or other applications intended for life-sustaining or other related applications where a failure or malfunction of component or circuitry may directly or indirectly cause injury or threaten a life without expressed written approval of Rectron Inc. Customers using or selling Rectron components for use in such applications do so at their own risk and shall agree to fully indemnify Rectron Inc and its subsidiaries harmless against all claims, damages and expenditures.