SDR900 thru SDR905

30 Amp
ULTRAFAST RECTIFIER
50 – 500 Volt
50 nsec

Features:
- Ultrafast recovery: 50 nsec maximum
- Low reverse leakage
- Hermetically sealed
- High surge current
- Single chip construction
- Available in isolated package
- For high efficiency applications
- TX, TXV, and S-level screening available – Contact factory 2/  

Maximum Ratings

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Value</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>V_{RRM}</td>
<td>50</td>
<td>V</td>
</tr>
<tr>
<td>V_{RWM}</td>
<td>100</td>
<td>V</td>
</tr>
<tr>
<td>V_{R}</td>
<td>200</td>
<td>V</td>
</tr>
<tr>
<td></td>
<td>300</td>
<td>V</td>
</tr>
<tr>
<td></td>
<td>400</td>
<td>V</td>
</tr>
<tr>
<td></td>
<td>500</td>
<td>V</td>
</tr>
</tbody>
</table>

Average Rectified Forward Current
(Resistive Load, 60 Hz, Sine Wave, T_A = 25°C)

I_o
30 A

Peak Surge Current
(8.3 ms Pulse, Half Sine Wave, T_A = 25°C)

I_{FSM}
350 A

Operating & Storage Temperature

T_{OP} & T_{STG}
-65 to +175 °C

Maximum Thermal Resistance
Junction to Case

R_{JJC}
1.0 °C/W

Notes:
1/ For ordering information, price, operating curves, and availability - contact factory.
2/ Screening based on MIL-PRF-19500. Screening flows available on request.
### Electrical Characteristics

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Max</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>$V_{F1}$</td>
<td>1.45</td>
<td>$V_{DC}$</td>
</tr>
<tr>
<td>$V_{F2}$</td>
<td>1.6</td>
<td>$V_{DC}$</td>
</tr>
<tr>
<td>$I_R1$</td>
<td>50</td>
<td>$\mu A$</td>
</tr>
<tr>
<td>$I_R2$</td>
<td>10</td>
<td>$mA$</td>
</tr>
<tr>
<td>$C_J$</td>
<td>250</td>
<td>$pf$</td>
</tr>
<tr>
<td>$t_{RR}$</td>
<td>50</td>
<td>$nsec$</td>
</tr>
</tbody>
</table>

#### Instantaneous Forward Voltage Drop
- $T_A = 25°C$, $300 \mu s$ pulse
- $I_F = 30 A_{DC}$

#### Reverse Leakage Current
- $V_R = 10 V_{DC}$
- $T_A = 25°C$, $f = 1 MHz$
- $T_A = 100°C$, $300 \mu s$ pulse minimum

#### Junction Capacitance
- $T_A = 25°C$, $f = 1 MHz$
- $V_R = 10 V_{DC}$

#### Reverse Recovery Time
- $I_F = 500 mA$, $I_R = 1 A$, $I_{RR} = 250 mA$, $T_A = 25°C$

### CASE OUTLINE: DO-5

![CASE OUTLINE: DO-5](image)

### TYPICAL OPERATING CURVES

- $T_A = 25°C$ Unless otherwise specified

![TYPICAL OPERATING CURVES](image)