1S1G thru 1S9G

Glass Passivated Super Fast Rectifiers
Reverse Voltage 50 to 1000 Volts  Forward Current 1.0 Ampere

Features

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

Mechanical Data

◆ Case: Molded plastic R-1
◆ 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: 0.007 ounce, 0.20 gram

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>1S1G</th>
<th>1S2G</th>
<th>1S3G</th>
<th>1S4G</th>
<th>1S5G</th>
<th>1S6G</th>
<th>1S7G</th>
<th>1S8G</th>
<th>1S9G</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum repetitive peak reverse voltage</td>
<td>V_{rrm}</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>
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<tr>
<td>Maximum RMS voltage</td>
<td>V_{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_{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>
</tbody>
</table>
| Maximum average forward rectified current  
.375” (9.5mm) lead length @T_{j}=55°C         | I_{AV}  | 1.0  |      |      |      |      |      |      |      |      | Amp     |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load 
(JEDEC Method)                                | I_{SM}  | 30.0 |      |      |      |      |      |      |      |      | Amps    |
| Maximum instantaneous forward voltage @ 1.0A    | V_{i}   | 0.95 | 1.3  | 1.7  |      |      |      |      |      |      | Volts   |
| Maximum DC reverse current at rated DC blocking voltage @ T_{j}=25°C | I_{r} | 5.0 |    |      |      |      |      |      |      |      | uA      |
| Maximum DC reverse current at rated DC blocking voltage @ T_{j}=125°C | I_{r} | 100 |    |      |      |      |      |      |      |      | uA      |
| Maximum reverse recovery time (Note 1)          | t_{rr}  | 35   |      |      |      |      |      |      |      |      | uS      |
| Typical junction capacitance (Note 2)           | C_{j}   | 40   |      |      |      |      |      |      |      |      | pF      |
| Operating junction temperature range            | T_{j}   |      |      |      |      |      |      |      |      |      | °C      |
| Storage temperature range                       | T_{STG} |      |      |      |      |      |      |      |      |      | °C      |

Notes:
1. Reverse Recovery Test Conditions: I_{rr}=0.5A, I_{p}=1.0A, I_{res}=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=7ms max. Input Impedance=1 megohm 22uf
2. Rise Time=10ns max. Source impedance=50 ohms

FIG. 2- MAXIMUM AVERAGE FORWARD CURRENT DERATING

FIG. 3- TYPICAL REVERSE CHARACTERISTICS

FIG. 4- TYPICAL FORWARD CHARACTERISTICS

FIG. 5- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

FIG. 6- TYPICAL JUNCTION CAPACITANCE