



95 E. Jefryn Boulevard  
Deer Park, NY 11729  
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## SF51 thru SF59

Glass Passivated Super Fast Rectifiers  
Reverse Voltage 50 to 1000 Volts Forward Current 5.0 Amperes

### Features

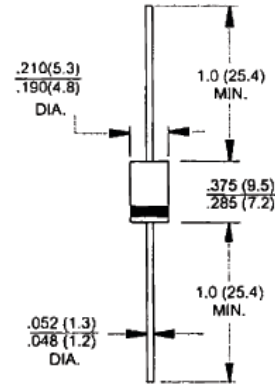
- ◆ Glass passivated chip
- ◆ Super fast switching time for high efficiency
- ◆ Low forward voltage drop and high current capability
- ◆ Low reverse leakage current
- ◆ Plastic material has UL flammability classification 94V-0



DO-201AD

### Mechanical Data

- ◆ Case: JEDEC DO-201AD molded plastic
- ◆ Polarity: Color band denotes cathode
- ◆ Weight: 0.042 ounce, 1.195 grams
- ◆ Mounting position: Any



### 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%

| Parameter   | Symbols         | SF51        | SF52 | SF53 | SF54 | SF55 | SF56 | SF57 | SF58 | SF59  | Units                          |
|---|-----------------|-------------|------|------|------|------|------|------|------|-------|--------------------------------|
| Maximum repetitive peak reverse voltage   | $V_{RRM}$       | 50          | 100  | 150  | 200  | 300  | 400  | 600  | 800  | 1000  | Volts                          |
| Maximum RMS voltage   | $V_{RMS}$       | 35          | 70   | 105  | 140  | 210  | 280  | 420  | 560  | 700   | Volts                          |
| Maximum DC blocking voltage   | $V_{OC}$        | 50          | 100  | 150  | 200  | 300  | 400  | 600  | 800  | 1000  | Volts                          |
| Maximum average forward rectified current<br>@ $T_A = 55^\circ\text{C}$   | $I_{AV}$        | 5.0         |      |      |      |      |      |      |      |       | Amps                           |
| Peak forward surge current<br>8.3ms single half sine-wave<br>superimposed on rated load (JEDEC Method)                  | $I_{FSM}$       | 150.0       |      |      |      |      |      |      |      |       | Amps                           |
| Maximum forward Voltage at 5.0A DC  | $V_F$           | 0.95        |      |      | 1.25 |      | 1.3  | 1.7  |      | Volts |                                |
| Maximum DC reverse current<br>at rated DC blocking voltage<br>@ $T_J = 25^\circ\text{C}$<br>@ $T_J = 100^\circ\text{C}$ | $I_R$           | 5.0         |      |      |      | 300  |      |      |      |       | $\mu\text{A}$<br>$\mu\text{A}$ |
| Maximum reverse recovery time (Note 1)  | $t_r$           | 35          |      |      |      |      |      |      |      |       | nS                             |
| Typical junction capacitance (Note 2)   | $C_j$           | 80          |      |      |      |      |      | 60   |      |       | pF                             |
| Typical thermal resistance (Note 3)   | $R_{\theta JA}$ | 13          |      |      |      |      |      |      |      |       | $^\circ\text{C/W}$             |
| Operating junction temperature range  | $T_J$           | -55 to +150 |      |      |      |      |      |      |      |       | $^\circ\text{C}$               |
| Storage temperature range   | $T_{STG}$       | -55 to +150 |      |      |      |      |      |      |      |       | $^\circ\text{C}$               |

- Notes:
1. Measured with  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $I_{RR} = 0.25\text{A}$ .
  2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
  3. Thermal Resistance Junction to Ambient.



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**RATINGS AND CHARACTERISTIC CURVES**

