



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_{DC} | 50 | 100 | 150 | 200 | 300 | 400 | 600 | 800 | 1000 | Volts | |
| Maximum average forward rectified current @ $T_A=55^\circ\text{C}$ | $I_{(AV)}$ | 5.0 | | | | | | | | | Amps | |
| Peak forward surge current 8.3ms single half sine-wave 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 at rated DC blocking voltage @ $T_J=25^\circ\text{C}$ @ $T_J=100^\circ\text{C}$ | I_R | | | | | 5.0 | | | | | μA μA | |
| Maximum reverse recovery time (Note 1) | t_{rr} | | | | | 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.

RATINGS AND CHARACTERISTIC CURVES

FIG.1 - FORWARD CURRENT DERATING CURVE

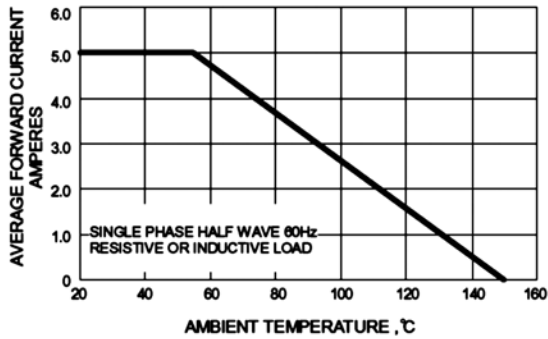


FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

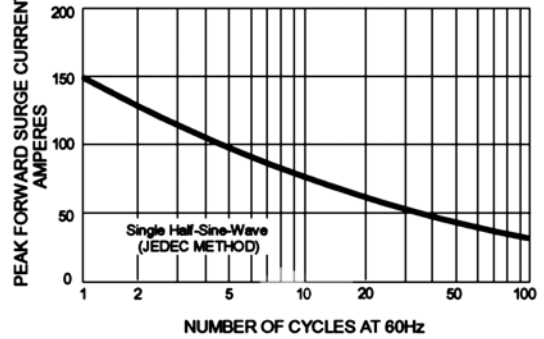


FIG.3 - TYPICAL JUNCTION CAPACITANCE

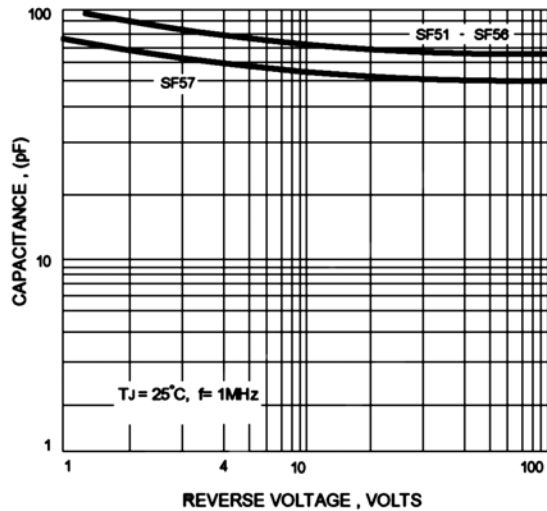


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

