# Zibo Seno Electronic Engineering Co., Ltd.

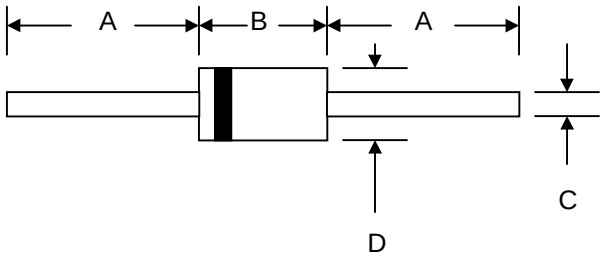
淄博圣诺

# SF51 - SF58

## 5.0A SUPER FAST RECTIFIER

## Features

- Diffused Junction
- Low Forward Voltage Drop
- High Current Capability
- High Reliability
- High Surge Current Capability




| DO-201AD | | |
|---|---|---|
| **Dim** | **Min** | **Max** |
| **A** | 24.5 | — |
| **B** | 7.20 | 9.50 |
| **C** | 1.10 | 1.30 |
| **D** | 5.0 | 5.60 |
| **All Dimensions in mm** | | |

## Mechanical Data

- Case: Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 1.2 grams (approx.)
- Mounting Position: Any
- Marking: Type Number
- **Lead Free: For RoHS / Lead Free Version**

## Maximum Ratings and Electrical Characteristics @$T_A$=25°C unless otherwise specified

Single Phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

| Characteristic | Symbol | SF51 | SF52 | SF53 | SF54 | SF55 | SF56 | SF57 | SF58 | Unit |
|---|---|---|---|---|---|---|---|---|---|---|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 50 | 100 | 150 | 200 | 300 | 400 | 500 | 600 | V |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 35 | 70 | 105 | 140 | 210 | 280 | 350 | 420 | V |
| Average Rectified Output Current (Note 1) @$T_A$ = 55°C | $I_O$ | 5.0 | | | | | | | | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$ | 150 | | | | | | | | A |
| Forward Voltage @$I_F$ = 5.0A | $V_{FM}$ | 0.975 | | | | 1.30 | | 1.70 | | V |
| Peak Reverse Current @$T_A$ = 25°C<br>At Rated DC Blocking Voltage @$T_A$ = 100°C | $I_{RM}$ | 5.0<br>100 | | | | | | | | μA |
| Reverse Recovery Time (Note 2) | $t_{rr}$ | 35 | | | | | | | | nS |
| Typical Junction Capacitance (Note 3) | $C_j$ | 100 | | | | 60 | | | | pF |
| Operating Temperature Range | $T_j$ | -65 to +150 | | | | | | | | °C |
| Storage Temperature Range | $T_{STG}$ | -65 to +150 | | | | | | | | °C |

***Glass passivated forms are available upon request**

Note: 1. Leads maintained at ambient temperature at a distance of 9.5mm from the case
2. Measured with IF = 0.5A, IR = 1.0A, IRR = 0.25A. See figure 5.
3. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.




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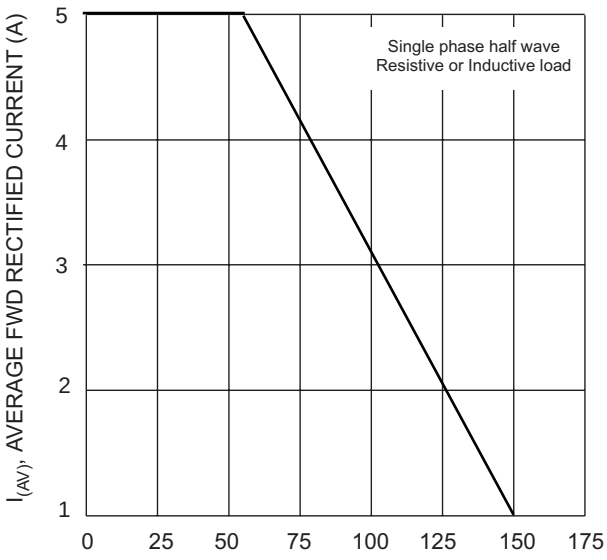



Fig. 1 Forward Current Derating Curve

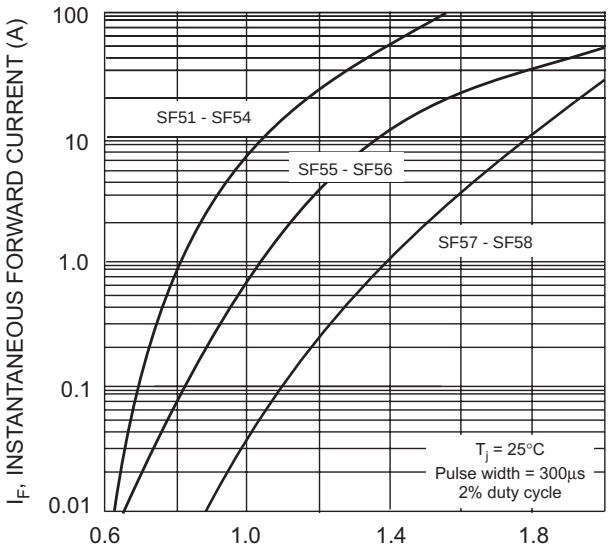



Fig. 2 Typical Forward Characteristics

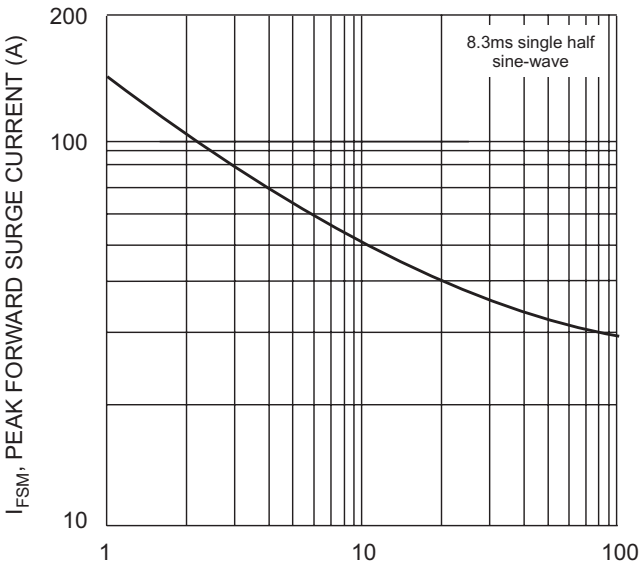



Fig. 3 Peak Forward Surge Current

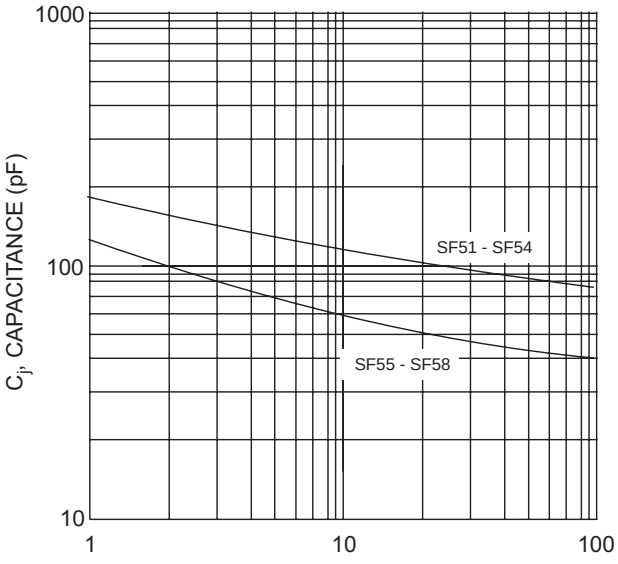
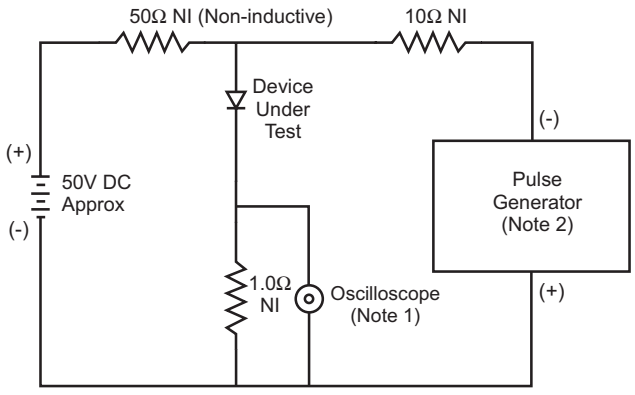
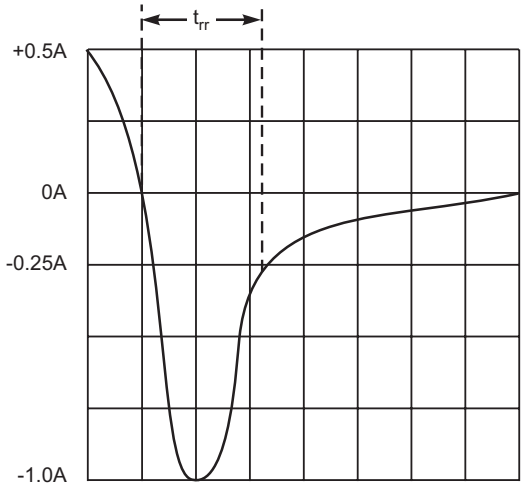



Fig. 4 Typical Junction Capacitance




Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
2. Rise Time = 10ns max. Input Impedance = 50Ω.

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit



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