

# SF51~SF58

## SUPERFAST RECOVERY RECTIFIER

**VOLTAGE** 50 to 600 Volt **CURRENT** 5.0 Ampere

DO-201AD

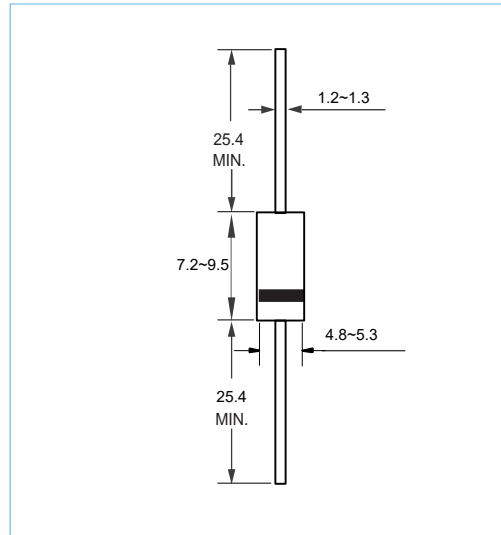
Unit:mm

### FEATURES

- Low Forward Voltage Drop
- High Current Capability
- High reliability
- High Surge Current Capability
- Lead free in compliance with EU RoHS

### MECHANICAL DATA

- Case Material: Molded Plastic.
- UL Flammability Classification Rating 94V-0



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

PARAMETER	SYMBOL	SF51	SF52	SF53	SF54	SF55	SF56	SF58	UNITS	
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	150	200	300	400	600	V	
Maximum RMS Voltage	$V_{RMS}$	35	70	105	140	210	280	420	V	
Maximum DC Blocking Voltage	$V_{DC}$	50	100	150	200	300	400	600	V	
Maximum Average Forward Current (see FIG.1)	$I_{F(AV)}$	5.0							A	
Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	150							A	
Maximum Forward Voltage at 5.0 A	$V_F$	0.95			1.25		1.70		V	
Maximum DC Reverse Current at Rated DC Blocking Voltage	$I_R$					5.0		100		$\mu A$
Maximum Reverse Recovery Time(Note 1)	$t_{rr}$					35		ns		
Thermal Resistance	$R_{\theta JA}$					25		$^{\circ}C / W$		
Typical Junction Capacitance (Note2)	$C_J$	110			50			pF		
Operating Junction Temperature Range	$T_J$	-55 to +125							$^{\circ}C$	
Storage Temperature Range	$T_{STG}$	-55 to +150							$^{\circ}C$	

NOTES:

1. Reverse Recovery Test Conditions:  $I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$
2. Measured at 1.0MHz and applied reverse voltage of 4.0 volt

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## RATING AND CHARACTERISTIC CURVES

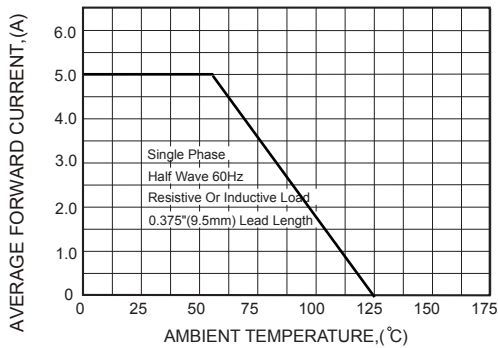


Fig. 1 Forward Current Derating Curve

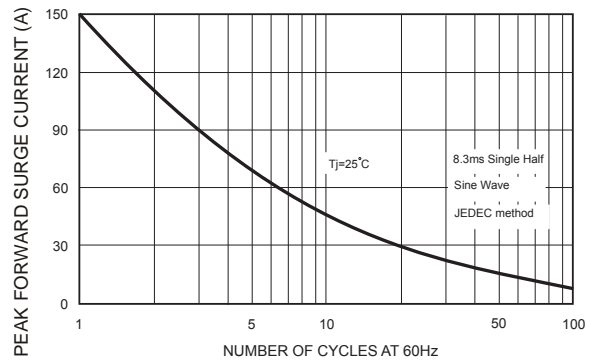


Fig. 2 Surge Current Derating Curve

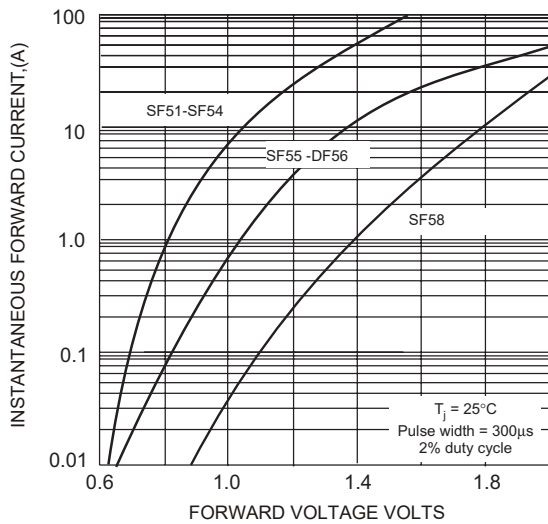


Fig. 3 Typical Forward Characteristics

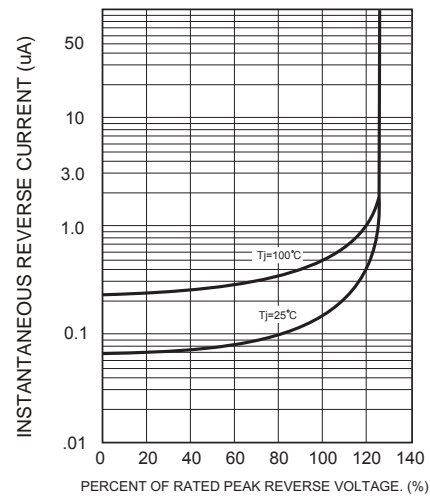


Fig. 4 Typical Reverse Characteristics

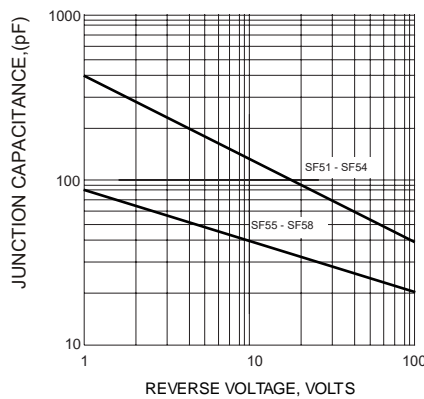
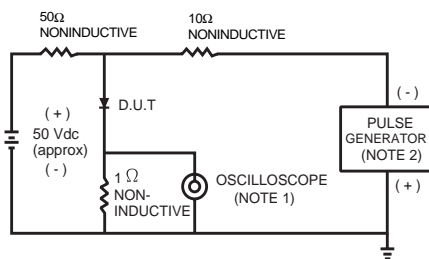


Fig. 5 Typical Junction Capacitance



NOTES:  
 3. Rise time = 7.0 ns max; Input impedance = 1.0 megaohm 22 pf.  
 4. Rise time = 10 ns max; Source impedance = 50 ohms.

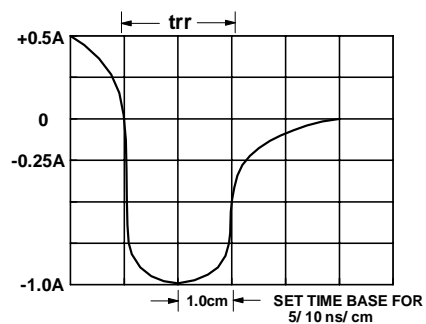


Fig. 6 Reverse Recovery Time Characteristic and Test Circuit

## SF51~SF58

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### ORDER INFORMATION

- Packing information

Part Number	Case	Reel Size	QUANTITY
SF51~SF58	DO-201AD	13 Inch	1200