

# SF51 THRU SF58

## SUPER FAST RECTIFIER

Reverse Voltage: 50 to 400 Volts  
Forward Current: 5.0 Amperes



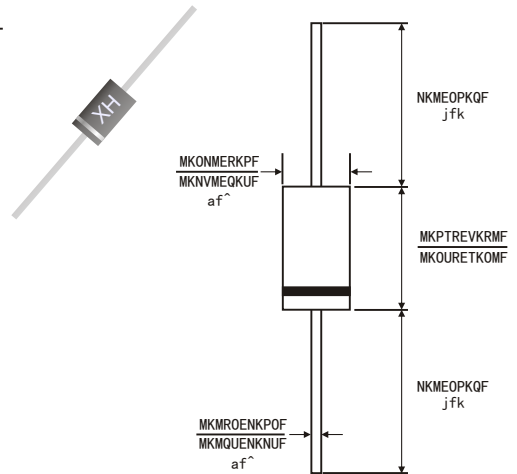
### FEATURES

- Low forward voltage drop
- High current capability
- High reliability
- High surge current capability
- Good for switching mode application
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC
- High temperature soldering guaranteed: 260°C/10 seconds at terminals

### MECHANICAL DATA

- Case: JEDEC DO-201AD molded plastic body
- *TerMINals*: Plated axial leads, solderable per MIL-STD-750, method 2026
- *Polarity*: Color band denotes cathode end
- *Mounting Position*: Any
- *Weight*: 0.041ounce, 1.15 grams

### DO-201AD



Dimensions in inches and (millimeters)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(Rating at 25°C ambient temperature unless otherwise specified, Single phase, half wave, 60HZ, resistive or inductive load. For capacitive load, derate current by 20%.)

	Symbols	SF 51	SF 52	SF 53	SF 54	SF 55	SF 56	SF 58	Units
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	50	100	150	200	300	400	600	Volts
Maximum RMS Voltage	$V_{RMS}$	35	70	105	140	210	280	420	Volts
Maximum DC Blocking Voltage	$V_{DC}$	50	100	150	200	300	400	600	Volts
Maximum Average Forward Rectified Current 0.375" (9.5mm) Lead Length at $T_A=55^\circ\text{C}$	$I_{(AV)}$	5.0							Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	150							Amps
Maximum Instantaneous Forward Voltage at 5.0 A	$V_F$	0.95		1.25		1.7		Volts	
Maximum DC Reverse Current At Rated DC Blocking Voltage	$T_A=25^\circ\text{C}$	5.0							$\mu\text{A}$
	$T_A=100^\circ\text{C}$	50							
Maximum Reverse Recovery Time(Note1)	$T_{rr}$	35							ns
Typical Junction Capacitance(Note2)	$C_j$	50							pF
Typical Thermal Resistance(Note3)	$R_{\theta JA}$	20							$^\circ\text{C}/\text{W}$
Operating Temperature Range	$T_J$	-65 to +150							$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65 to +150							$^\circ\text{C}$

Note: 1. Reverse Recovery Test conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{RR}=0.25\text{A}$ .

2. Measured at 1MHz and applied reverse voltage of 4.0 Volts.

FIG.1-MAXIMUM AVERAGE FORWARD CURRENT DERATING

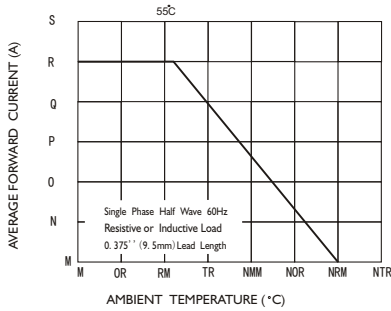


FIG.2-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

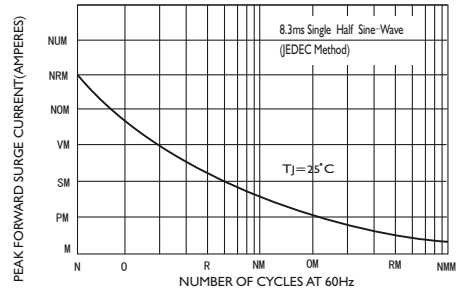


FIG.3-TYPICAL FORWARD CHARACTERISTICS

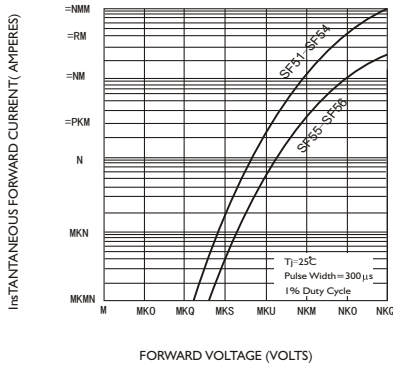


FIG.4-TYPICAL REVERSE CHARACTERISTICS

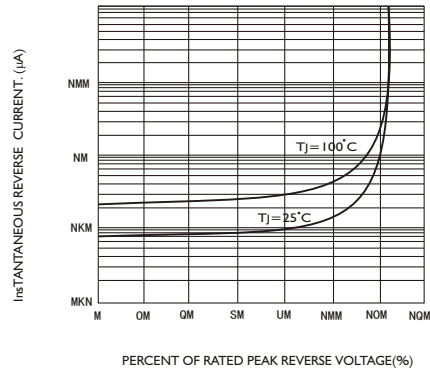


FIG.5-TYPICAL JUNCTION CAPACITANCE

