



SEMICONDUCTOR

# SF51G THRU SF58G

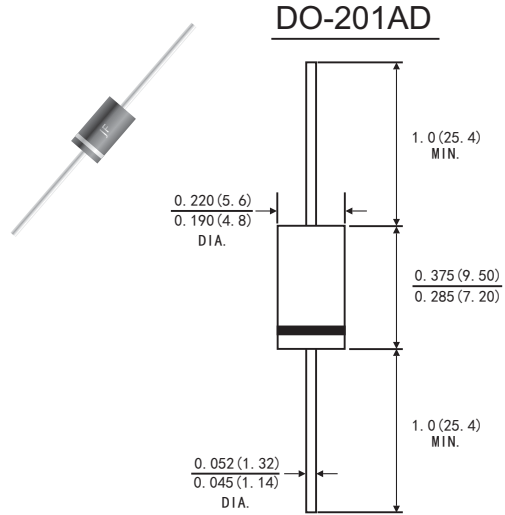
**SUPER FAST RECTIFIER**  
 Reverse Voltage: 50 to 600 Volts  
 Forward Current: 5.0 Amperes

## 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 2011/65/EU
- 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: 0.041 ounce, 1.15 grams



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 51G	SF 52G	SF 53G	SF 54G	SF 55G	SF 56G	SF 58G	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	$I_{AV}$	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			1.3		1.7		Volts
Maximum DC Reverse Current At Rated DC Blocking Voltage	$T_A=25^\circ C$	5.0							$\mu A$
	$T_A=100^\circ C$	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							$^\circ C/W$
Operating Temperature Range	$T_J$	-55 to +150							$^\circ C$
Storage Temperature Range	$T_{STG}$	-55 to +150							$^\circ C$

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

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

# RATINGS AND CHARACTERISTIC CURVES SF51G THRU SF58G

FIG.1-MAXIMUM AVERAGE FORWARD CURRENT DERATING

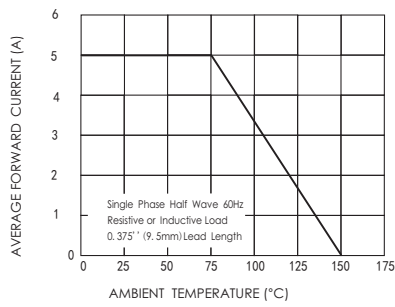


FIG.2-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

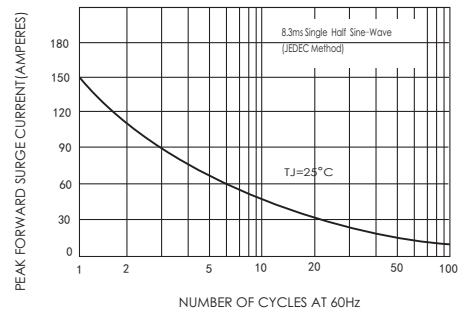


FIG.3-TYPICAL FORWARD CHARACTERISTICS

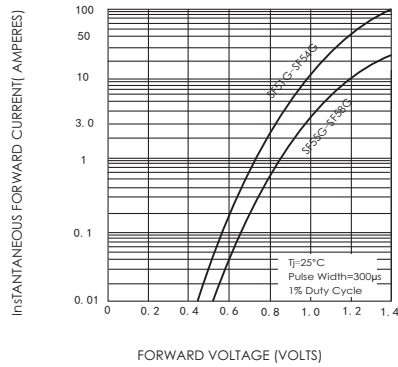


FIG.4-TYPICAL REVERSE CHARACTERISTICS

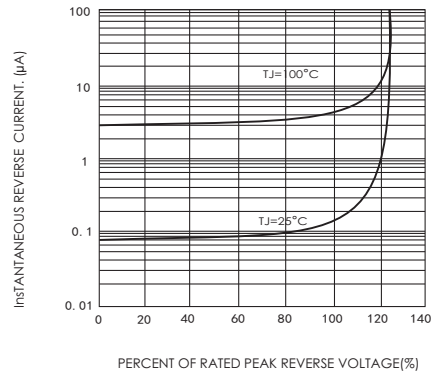


FIG.5-TYPICAL JUNCTION CAPACITANCE

