

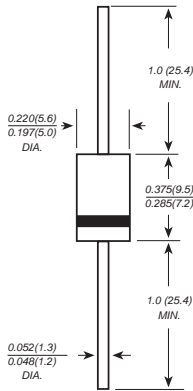


# SF51G THRU SF58G

## SUPER FAST RECTIFIER

Reverse Voltage - 50 to 600 Volts Forward Current -5.0 Amperes

### DO-201AD



Dimensions in inches and (millimeters)

### FEATURES

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ Super fast switching for high efficiency
- ◆ Low reverse leakage
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed:  
250°C/10 seconds, 0.375" (9.5mm) lead length,  
5 lbs. (2.3kg) tension

### 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:** 0.04 ounce, 1.10 grams

### 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 current derate by 20%.

MDD Catalog Number	SYMBOLS	SF51G	SF52G	SF53G	SF54G	SF55G	SF56G	SF58G	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)	$I_{FSM}$	150.0							Amps	
Maximum instantaneous forward voltage at 5.0A	$V_F$	0.95			1.25		1.7		Volts	
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	$I_R$	10.0 50.0							$\mu\text{A}$	
Maximum reverse recovery time (NOTE 1)	$t_{rr}$	35							ns	
Typical junction capacitance (NOTE 2)	$C_J$	100.0				50.0				pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$	30.0							$^\circ\text{C/W}$	
Operating junction and storage temperature range	$T_J, T_{STG}$	-65 to +150							$^\circ\text{C}$	

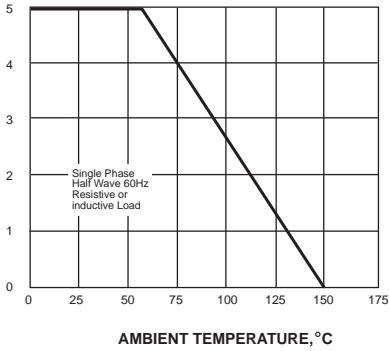
- Note:**
- 1.Reverse recovery condition  $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$
  - 2.Measured at 1MHz and applied reverse voltage of 4.0V D.C.
  - 3.Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted



# RATINGS AND CHARACTERISTIC CURVES SF51G THRU SF58G

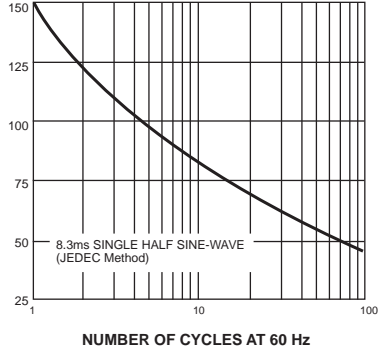
AVERAGE FORWARD RECTIFIED CURRENT,  
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



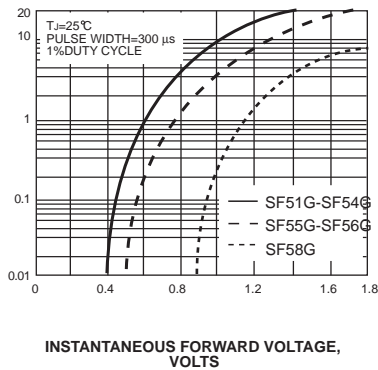
PEAK FORWARD SURGE CURRENT,  
AMPERES

FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



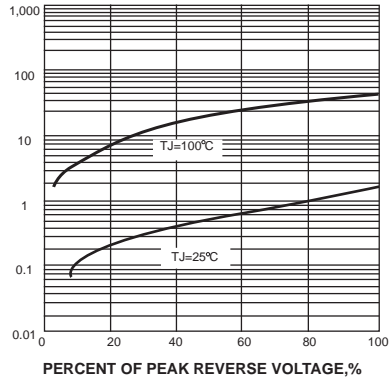
INSTANTANEOUS FORWARD CURRENT, AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



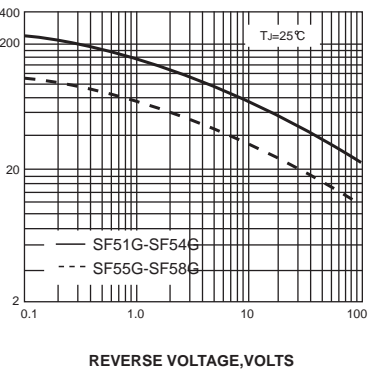
INSTANTANEOUS REVERSE CURRENT,  
MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



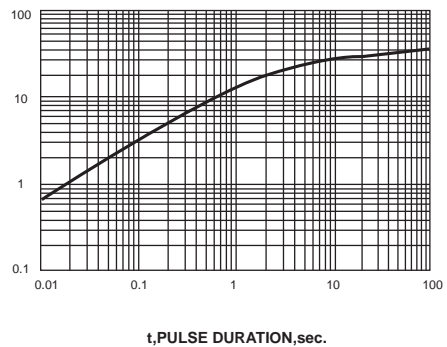
JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE,  
°C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



The cruve graph is for reference only, can't be the basis for judgment(曲线图仅供参考)!

