



### SF51G THRU SF58G

VOLTAGE RANGE

50 to 600 Volts

CURRENT

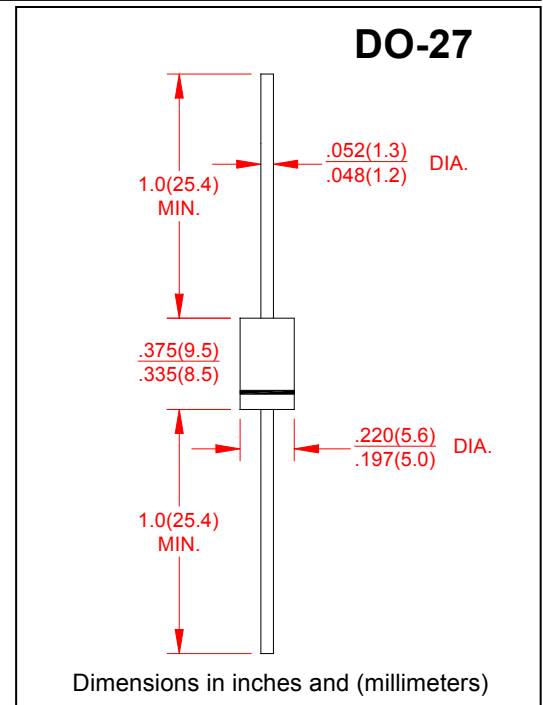
5.0 Ampere

### Features

- Super fast switching speed
- Glass passivated chip junction
- Low power loss, high efficiency
- Low leakage
- High Surge Capacity
- High temperature soldering guaranteed  
260°C/10 seconds, 0.375"(9.5mm) lead length

### Mechanical Data

- Case: Transfer molded plastic
- Epoxy: UL94V-0 rate flame retardant
- Polarity: Color band denotes cathode end
- Lead: Plated axial lead, solderable per MIL-STD-202E method 208C
- Mounting position: Any
- Weight: 0.042ounce, 1.19 gram



### 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 derate current by 20%

TYPE NUMBER	SYMBOLS	SF 51G	SF 52G	SF 53G	SF 54G	SF 55G	SF 56G	SF 57G	SF 58G	UNIT
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	50	100	150	200	300	400	500	600	Volts
Maximum RMS Voltage	$V_{RMS}$	35	70	105	140	210	280	350	420	Volts
Maximum DC Blocking Voltage	$V_{DC}$	50	100	100	200	300	400	500	600	Volts
Maximum Average Forward Rectified Current 0.375"(9.5mm) lead length at $T_A=80^\circ\text{C}$	$I_{(AV)}$	5.0								Amps
Peak Forward Surge Current 8.3mS single half sine wave superimposed on rated load (JEDEC method)	$I_{FSM}$	125								Amps
Maximum Instantaneous Forward Voltage at 5.0A	$V_F$	0.95			1.25		1.70			Volts
Maximum DC Reverse Current at rated DC blocking Voltage at	$T_A = 25^\circ\text{C}$	5.0								$\mu\text{A}$
	$T_A = 125^\circ\text{C}$	50								
Maximum Reverse Recovery Time Test conditions $I_F = 0.5\text{A}$ , $I_R = 1.0\text{A}$ , $I_{RR} = 0.25\text{A}$	$T_{RR}$	35								nS
Typical Junction Capacitance (Measured at 1.0MHz and applied reverse voltage of 4.0V)	$C_J$	50				30				pF
Typical Thermal Resistance (NOTE 1)	$R_{\theta JA}$	30								$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	$T_J$	(-55 to +150)								$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	(-55 to +150)								$^\circ\text{C}$

### Notes:

1. Thermal Resistance from Junction to Ambient with 0.375"(9.5mm) lead length, PCB mounted.



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### Ratings and Characteristic Curves (TA=25°C unless otherwise noted)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

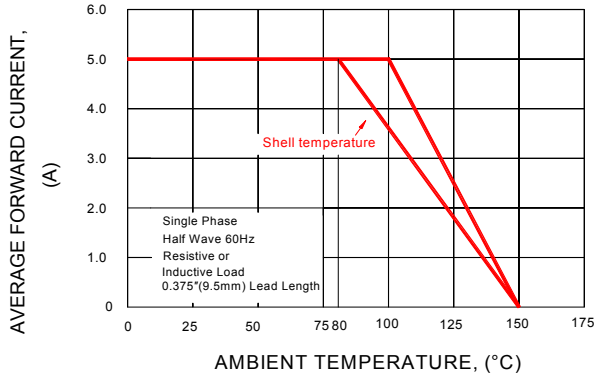


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

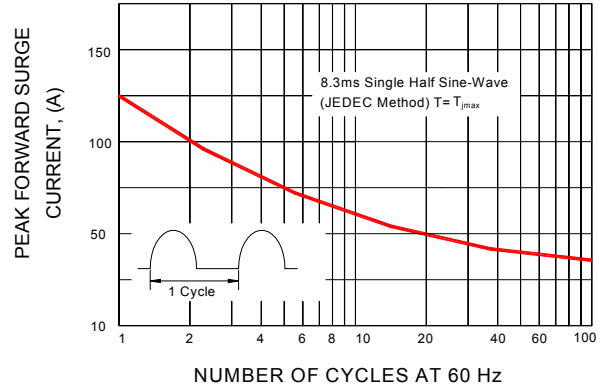


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

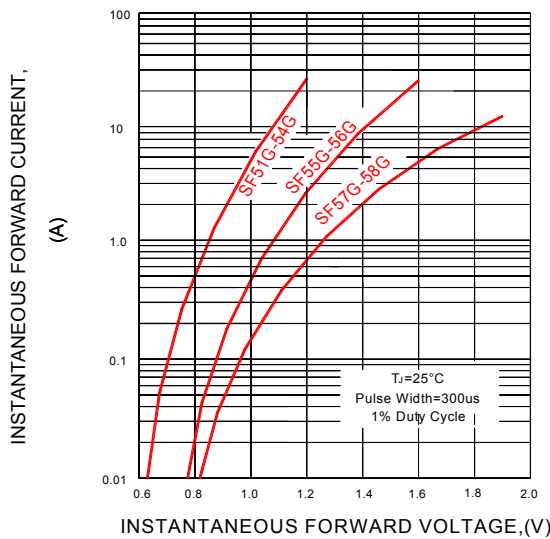


FIG.4-TYPICAL REVERSE CHARACTERISTICS

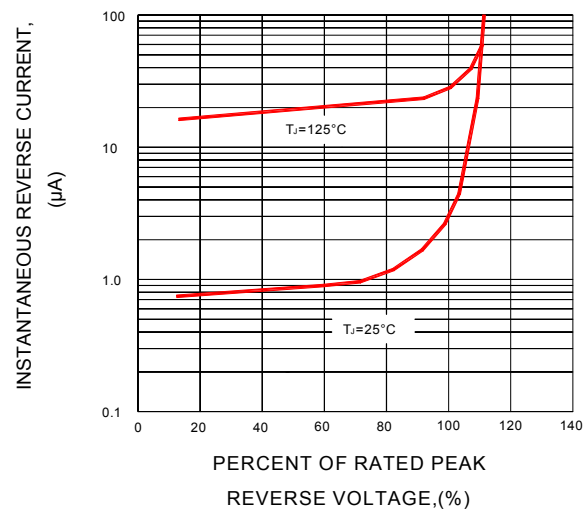


FIG.5-TYPICAL JUNCTION CAPACITANCE

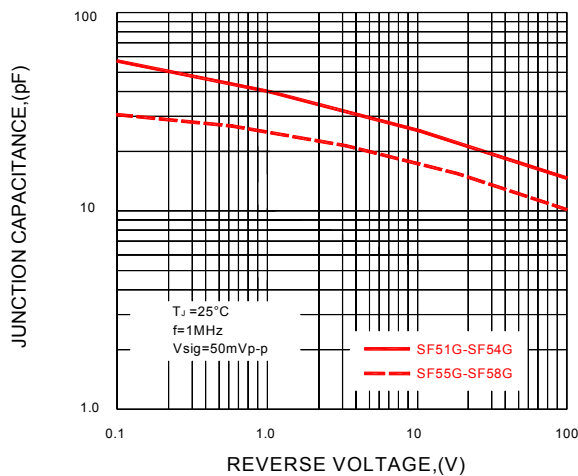
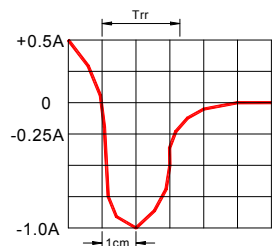
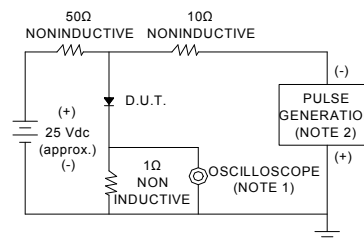


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES : 1. Rise Time = 7ns max. Input Impedance = 1 magohm. 22pF  
 2. Rise time = 10ns max. Source Impedance = 50 ohms

SET TIME BASE FOR 50/100ns/cm