

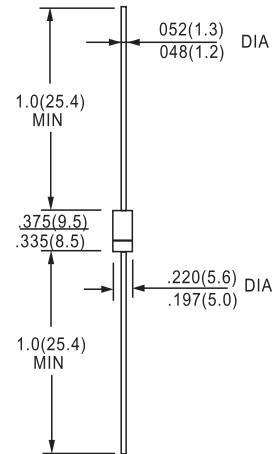
### FEATURES

- 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

DO-27



Dimensions in inches and (millimeters)

## 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%

	SYMBOLS	SF51	SF52	SF53	SF54	SF55	SF56	SF57	SF58	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 $T_A=55$	$I_{(AV)}$	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		1.7			Volts
Maximum DC Reverse Current at rated DC blocking Voltage at	$I_R$	$T_A = 25$								$\mu A$
		$T_A = 125$								
Maximum Reverse Recovery Time Test conditions $I_F = 0.5A$ , $I_R = 1.0A$ , $I_{RR} = 0.25A$	$t_{rr}$	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								/W
Operating Junction Temperature Range	$T_J$	(-55 to +150)								
Storage Temperature Range	$T_{STG}$	(-55 to +150)								

### Notes:

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

## RATING AND CHARACTERISTIC CURVES SF51 THRU SF58

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

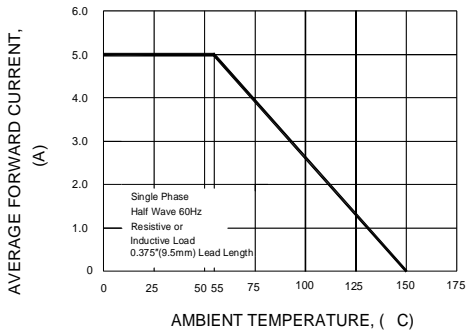


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

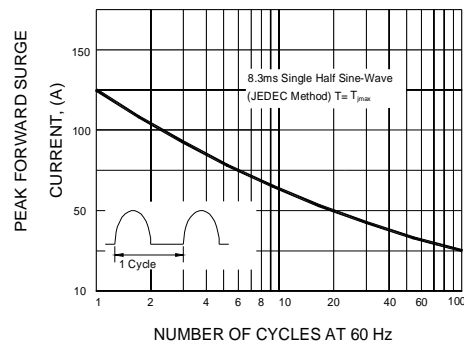


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

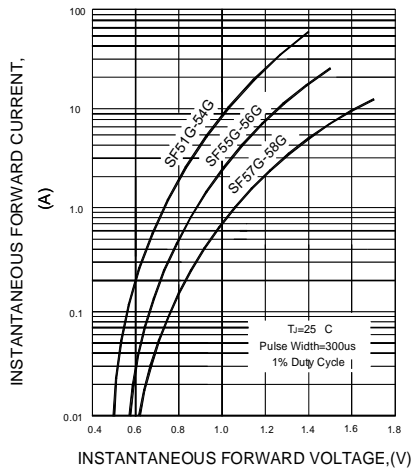


FIG.4-TYPICAL REVERSE CHARACTERISTICS

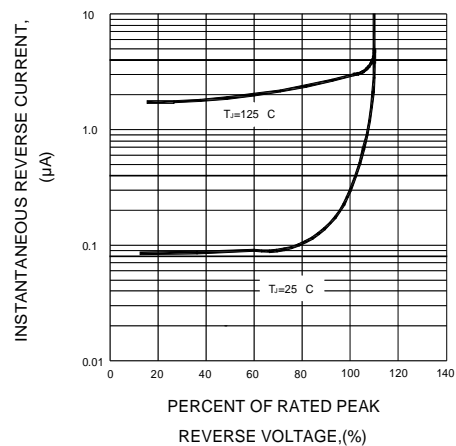


FIG.5-TYPICAL JUNCTION CAPACITANCE

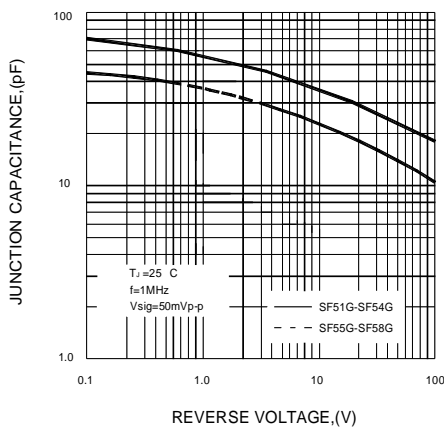
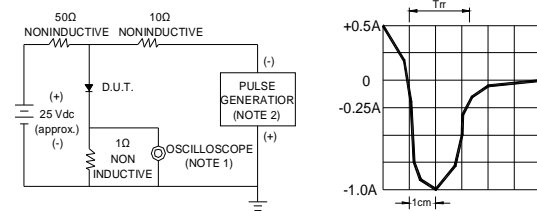


FIG.6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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