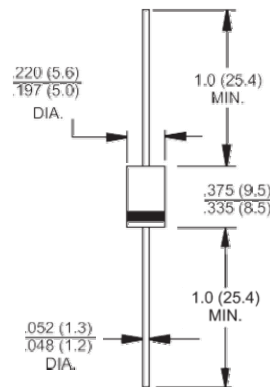




### DO-201AD



## Features

- # High efficiency, low VF
- # High current capability
- # High reliability
- # High surge current capability
- # Low power loss.
- # For use in low voltage, high frequency inverter, free wheeling, and polarity protection application

## Mechanical Data

- # Case: Molded plastic
- # Epoxy: UL 94V-0 rate flame retardant
- # Polarity: Color band denotes cathode
- # High temperature soldering guaranteed:  
260°C/10 seconds/.375" (9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- # Mounting position: Any
- # Weight: 1.2 grams

Dimensions in inches and (millimeters)

## Maximum Ratings and Electrical Characteristics

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

Type Number	Symbol	SF 51	SF 52	SF 53	SF 54	SF 55	SF 56	SF 57	SF 58	SF 59	SF 510	Units		
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	150	200	300	400	500	600	800	1000	V		
Maximum RMS Voltage	$V_{RMS}$	35	70	105	140	210	280	350	420	560	700	V		
Maximum DC Blocking Voltage	$V_{DC}$	50	100	150	200	300	400	500	600	800	1000	V		
Maximum Average Forward Rectified Current .375 (9.5mm) Lead Length @ $T_A = 55^\circ C$	$I_{(AV)}$	5.0										A		
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	150										A		
Maximum Instantaneous Forward Voltage @ 5.0A	$V_F$	0.975		1.3			1.7		2.0			V		
Maximum DC Reverse Current @ $T_A = 25^\circ C$ at Rated DC Blocking Voltage @ $T_A = 100^\circ C$	$I_R$	5.0					100						uA uA	
Maximum Reverse Recovery Time (Note 1)	$T_{rr}$	35										nS		
Typical Junction Capacitance (Note 2)	$C_j$	120				60				30				pF
Typical Thermal Resistance (Note 3)	$R_{\theta JA}$ $R_{\theta JL}$	20						5.0						$^\circ C/W$ $^\circ C/W$
Operating Temperature Range	$T_J$	-65 to +150										$^\circ C$		
Storage Temperature Range	$T_{STG}$	-65 to +150										$^\circ C$		

- Notes:
- Reverse Recovery Test Conditions:  $I_F = 0.5A$ ,  $I_R = 1.0A$ ,  $I_{RR} = 0.25A$
  - Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.
  - Mount on Cu-Pad Size 16mm x 16mm on P.C.B

### RATINGS AND CHARACTERISTIC CURVES ( SF51 THRU SF510 )

FIG.1- MAXIMUM AVERAGE FORWARD CURRENT DERATING

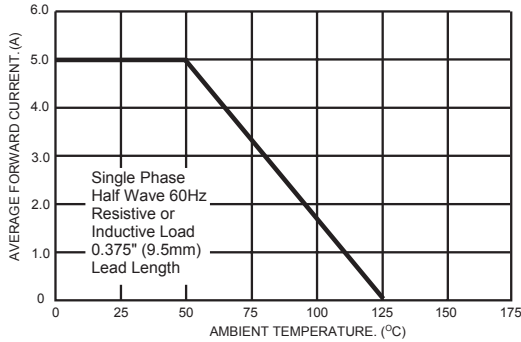


FIG.2- TYPICAL REVERSE CHARACTERISTICS

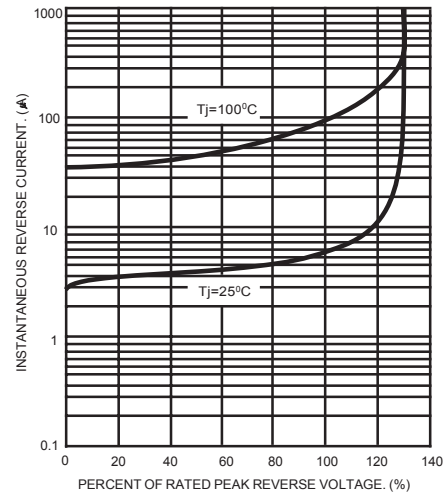


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

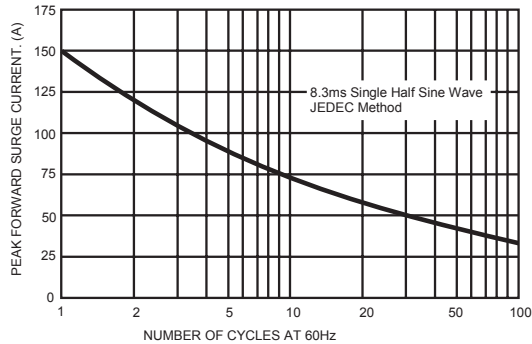


FIG.5- TYPICAL FORWARD CHARACTERISTICS

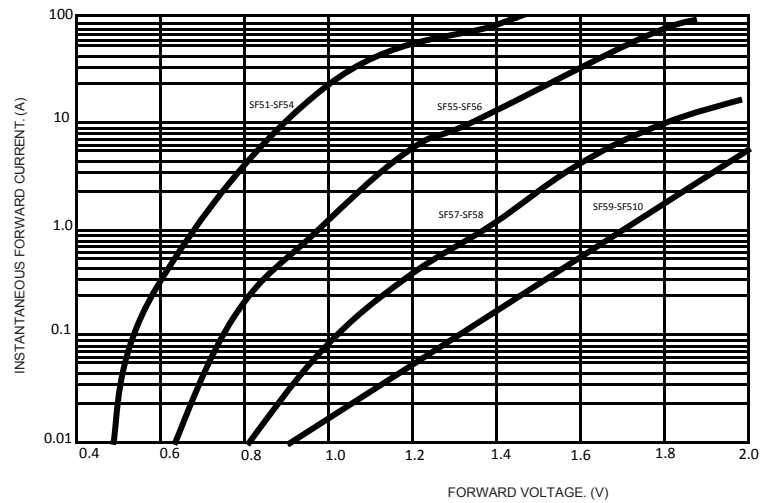


FIG.4- TYPICAL JUNCTION CAPACITANCE

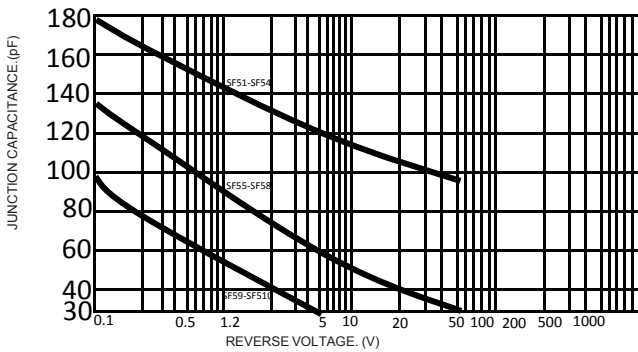
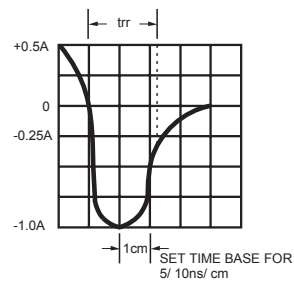
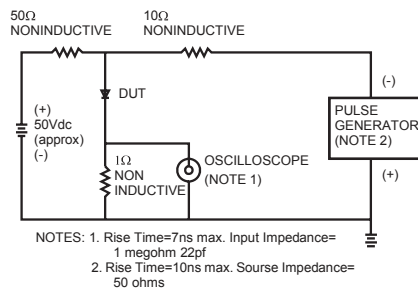


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



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