



# SF51 THRU SF56

## GLASS PASSIVATED SUPER FAST RECTIFIER

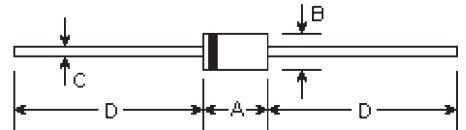
Reverse Voltage - 50 to 600 Volts

Forward Current - 5.0 Amperes

### Features

- High reliability
- Low leakage
- Low forward voltage
- High current capability
- Super fast switching speed
- High surge capability
- Good for switching mode circuit
- Glass passivated junction

### DO-201AD



### Mechanical Data

- **Case:** Molded plastic
- **Epoxy:** UL94V-0 rate flame retardant
- **Lead:** MIL-STD-202E method 208C guaranteed
- **Mounting Position:** Any
- **Weight:** 0.042 ounce, 1.195 grams

DIM	DIMENSIONS				Note
	inches		mm		
	Min.	Max.	Min.	Max.	
A	0.283	0.374	7.20	9.50	
B	0.189	0.208	4.80	5.30	φ
C	0.048	0.051	1.20	1.30	φ
D	1.000	-	25.40	-	

### 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	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	300	400	600	Volts
Maximum RMS voltage	$V_{RMS}$	35	70	140	210	280	420	Volts
Maximum DC blocking voltage	$V_{DC}$	50	100	200	300	400	600	Volts
Maximum average forward current 0.375" (9.5mm) lead length at $T_A=55^\circ\text{C}$	$I_{(AV)}$	5.0						Amps
Peak forward surge current, $I_{FSM}$ (surge): 8.3mS single half sine-wave superimposed on rated load (MIL-STD-750D 4066 method)	$I_{FSM}$	150.0						Amps
Maximum forward voltage at 5.0A DC	$V_F$	0.95				1.27	1.75	Volts
Maximum DC reverse current at rated DC blocking voltage	$I_R$	5.0 50.0						μA
Maximum reverse recovery time (Note 1)	$T_{rr}$	35.0						nS
Typical junction capacitance (Note 2)	$C_J$	50				30		μF
Operating and storage temperature range	$T_J, T_{STG}$	-65 to +150						°C

Notes:

(1) Test conditions:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{rr}=0.25A$

(2) Measured at 1.0MHz and applied reverse voltage of 4.0 volts

# RATINGS AND CHARACTERISTIC CURVES

FIG. 1 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

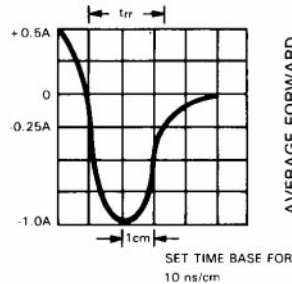
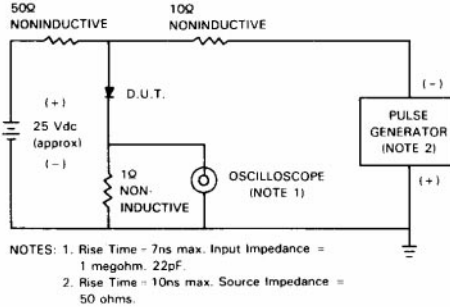


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

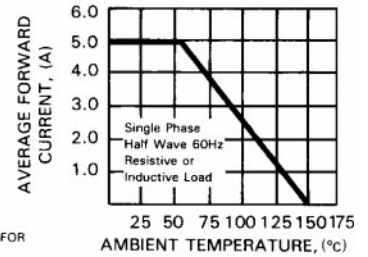


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

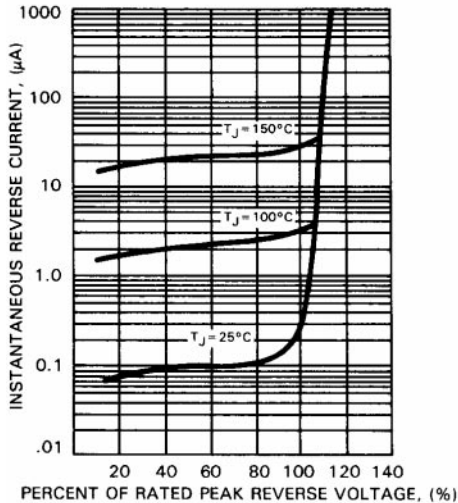


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

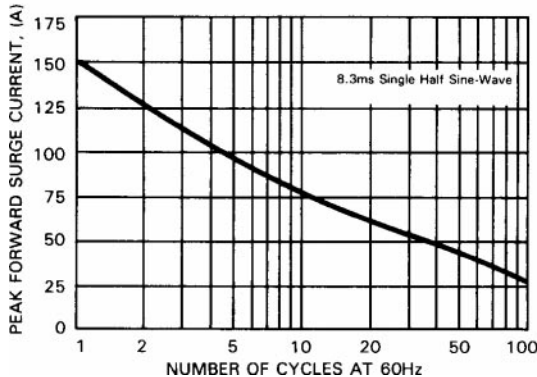


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

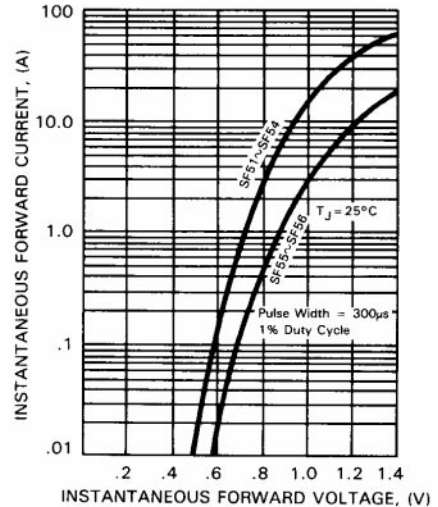


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

