MOSPEC

SF37 thru SF310

Switchmode Power Rectifiers

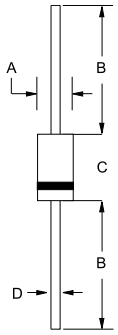
... Designed for use in switching power supplies. inverters and as free wheeling diodes. These state-of-the-art devices have the following features:

* High Surge Capacity
* Low Power Loss, High efficiency
* Glass Passivated chip junctions
* 150 °C Operating Junction Temperature
* Low Stored Charge Majority Carrier Conduction
* Low Forward Voltage , High Current Capability
* Utrafast 50 & 75 Nanosecond Recovery Time
* Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-O

ULTRA FAST RECTIFIERS

3.0 AMPERES
500-1000 VOLTS

DO-201AD



DIM	MILLMETERS	
	MIN	MAX
A	5.00	5.60
B	25.40	---
C	8.50	9.50
D	1.20	1.30

CASE---
Transfer molded plastic

POLARITY---
Cathode indicated polarity band

MAXIMUM RATINGS

Characteristic	Symbol	SF37	SF38	SF39	SF310	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	500	600	800	1000	V
RMS Reverse Voltage	$V_{R(RMS)}$	350	420	560	700	V
Average Rectifier Forward Current	I_O	3.0				A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfware,single phase,60Hz)	I_{FSM}	50				A
Operating and Storage Junction Temperature Range	T_J , T_{stg}	- 65 to + 150				°C

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	SF37	SF38	SF39	SF310	Unit
Maximum Instantaneous Forward Voltage (I_F=3.0 Amp, T_C = 25 °C)	V_F	1.50		1.75		V
Maximum Instantaneous Reverse Current (Rated DC Voltage, T_C = 25 °C) (Rated DC Voltage, T_C = 125 °C)	I_R	5.0 70				uA
Reverse Recovery Time (I_F = 0.5 A, I_R =1.0 , I_{rr} =0.25 A)	T_{rr}	50			75	ns
Typical Junction Capacitance (Reverse Voltage of 4 volt & f=1 MHz)	C_P	25		20		pF

SF37 Thru SF310

FIG-1 TYPICAL FORWARD CHARACTERISTICS

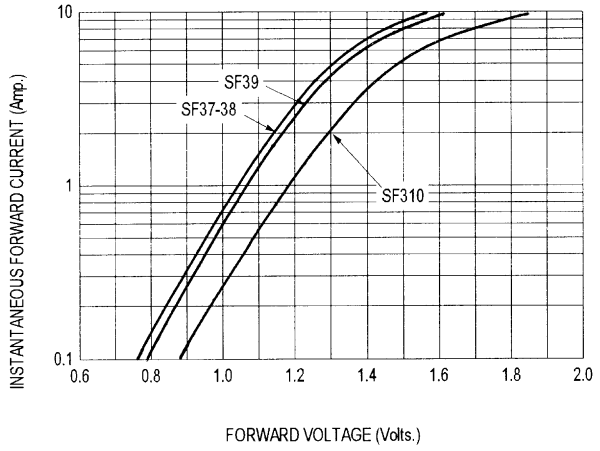


FIG-2 TYPICAL REVERSE CHARACTERISTICS

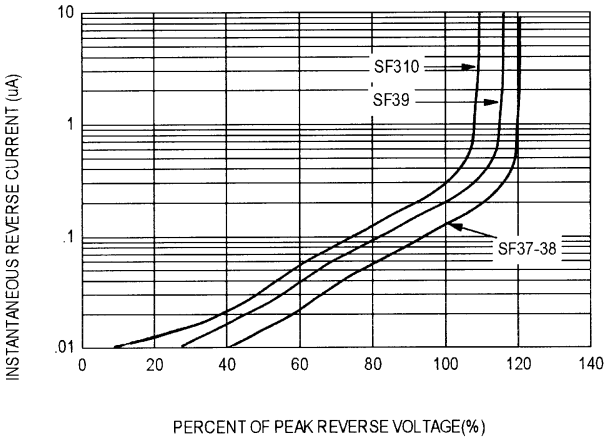


FIG-3 FORWARD CURRENT DERATING CURVE

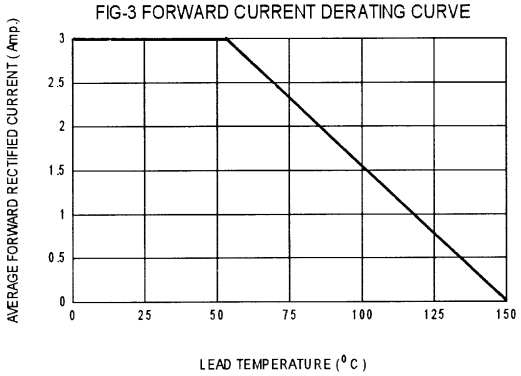


FIG-4 TYPICAL JUNCTION CAPACITANCE

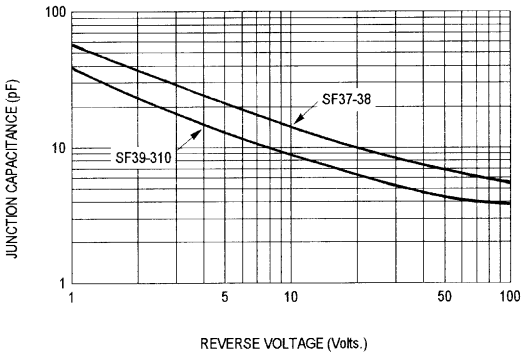
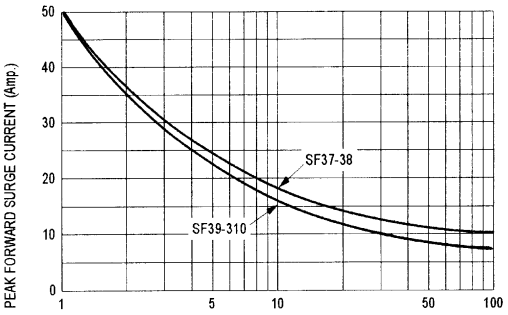
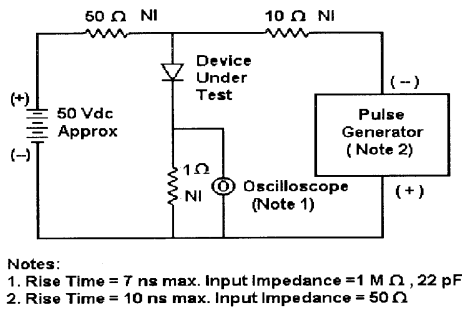


FIG-5 PEAK FORWARD SURGE CURRENT





Notes:
1. Rise Time = 7 ns max. Input Impedance =1 M Ω , 22 pF
2. Rise Time = 10 ns max. Input Impedance = 50 Ω

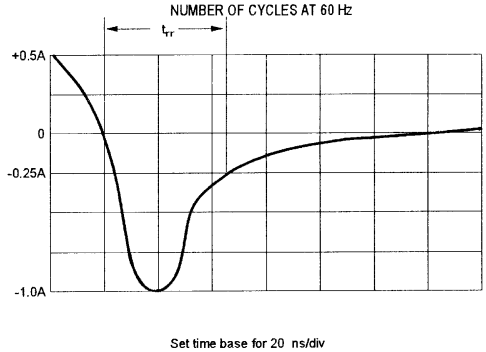


Fig-6 Reverse Recovery Time Characteristic and Test Circuit Diagram