

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

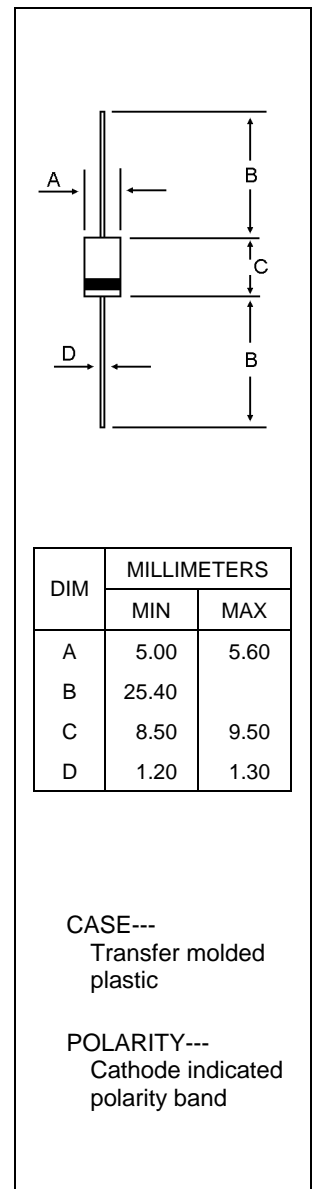
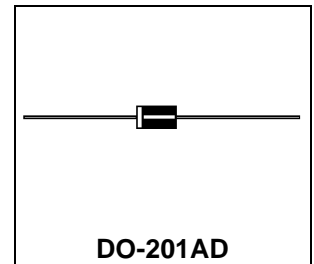
- * High Surge Capacity
- * Low Power Loss, High efficiency
- * Glass Passivated chip junctions
- * 150°C Operating Junction Temperature
- * Low Stored Charge Majority Carrier Conduction
- * Low Forward Voltage , High Current Capability
- * Ultrafast 50 & 75 Nanosecond Recovery Time
- * Plastic Material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



Plating pb free
The marking is indicated by part no. add. "M". ex:SF47M~SF410M

**ULTRAFAST
RECTIFIERS**

**4.0 AMPERES
500-1000 VOLTS**



MAXIMUM RATINGS

Characteristic	Symbol	SF47	SF48	SF49	SF410	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_{R50}	500	600	800	1000	V
RMS Reverse Voltage	$V_{R(RMS)}$	350	420	560	700	V
Average Rectifier Forward Current	I_O	4.0				A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfwave, single phase,60Hz)	I_{FSM}	60				A
Operating and Storage Junction Temperature Range	T_J, T_{STG}	-65 to +150				°C

ELECTRIAL CHARACTERISTICS

Characteristic	Symbol	SF47	SF48	SF49	SF410	Unit
Maximum Instantaneous Forward Voltage ($I_F=5.0$ Amp, $T_C = 25^\circ C$)	V_F	1.50		1.75		V
Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_C = 25^\circ C$) (Rated DC Voltage, $T_C = 125^\circ C$)	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 volts & $f=1$ MHz)	C_P	30		25		pF

SF47 Thru SF410

FIG-1 TYPICAL FORWARD CHARACTERISTICS

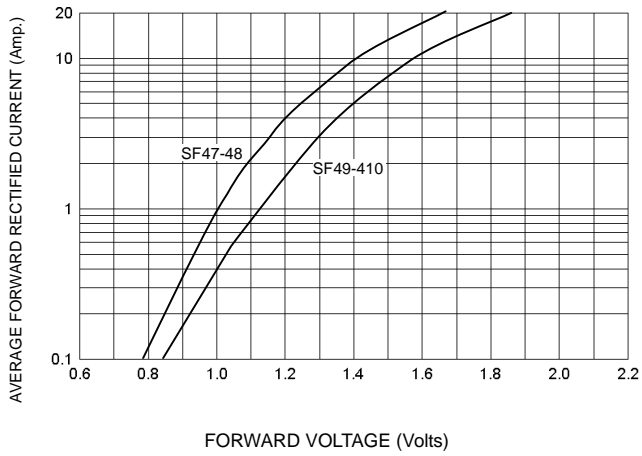


FIG-3 FORWARD CURRENT DERATING CURVE

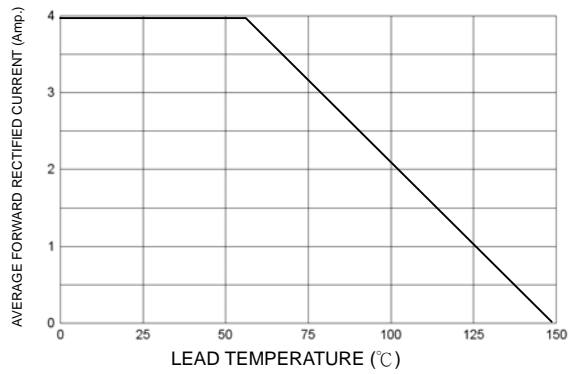


FIG-2 TYPICAL REVERSE CHARACTERISTICS

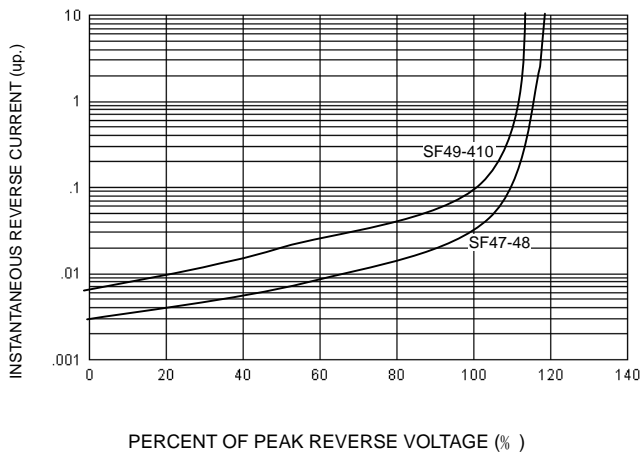


FIG-4 TYPICAL JUNCTION CAPACITANCE

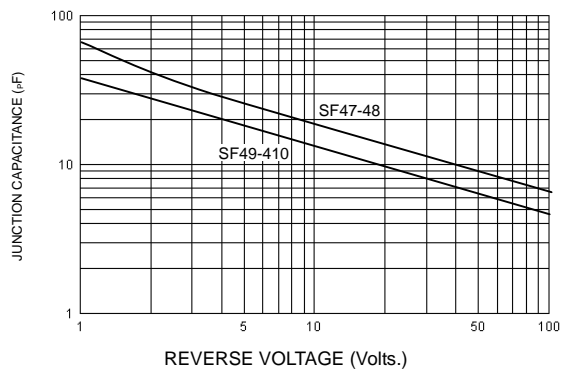
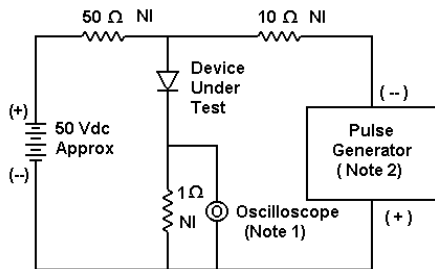
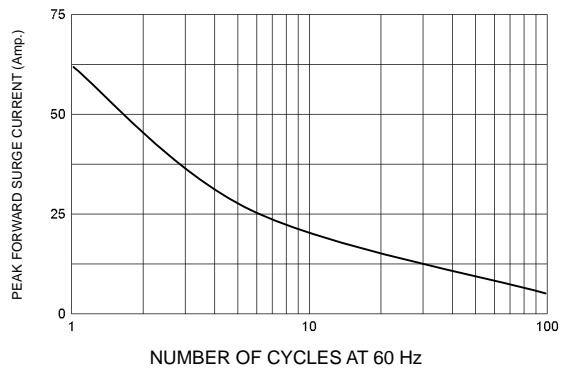
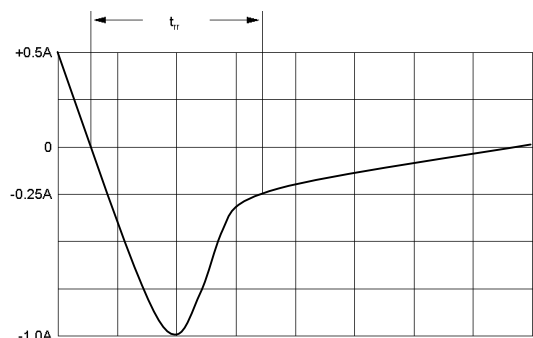


FIG-5 PEAK FORWARD SURGE CURRENT



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



Set time base for 10/20 ns/cm

FIG-6 Reverse Recovery Time Characteristic and Test Circuit Diagram