MOSPEC

SF51 thru SF56

Switchmode Power Rectifiers

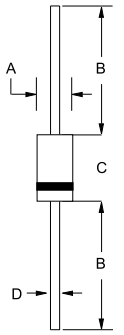
... Designed for use in switching power supplies. inverters and as free wheeling diodes. These state-of-the-art devices have the following features:

* 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 35 & 50 Nanosecond Recovery Time
* Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-O

ULTRA FAST RECTIFIERS

5.0 AMPERES
50 -- 400 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	SF						Unit
		51	52	53	54	55	56	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	50	100	150	200	300	400	V
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	105	140	210	280	V
Average Rectifier Forward Current	I_o	5.0						A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfware,single phase,60Hz)	I_{FSM}	100				75		A
Operating and Storage Junction Temperature Range	T_j , T_{stg}	- 65 to + 150						°C

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	SF						Unit
		51	52	53	54	55	56	
Maximum Instantaneous Forward Voltage (I_F=5.0 Amp, T_C = 25 °C)	V_F	1.00				1.30		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}	35				50		ns
Typical Junction Capacitance (Reverse Voltage of 4 volts & f=1 MHz)	C_P	55				45		pF

SF51 Thru SF56

FIG-1 TYPICAL FORWARD CHARACTERISTICS

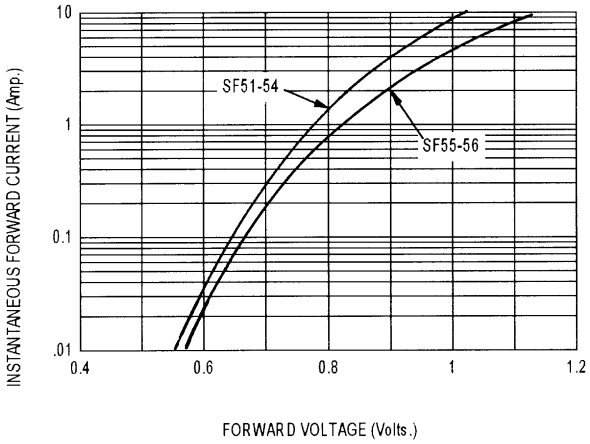
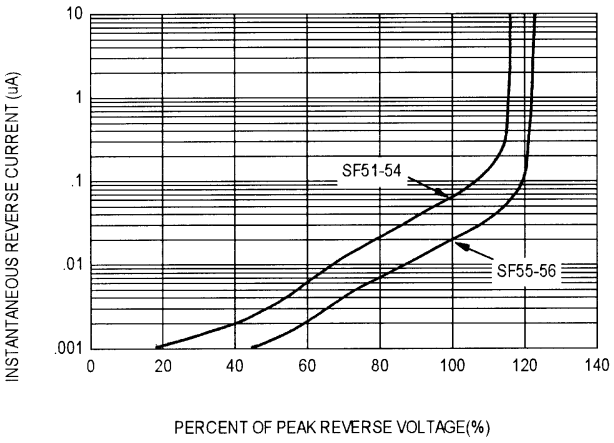
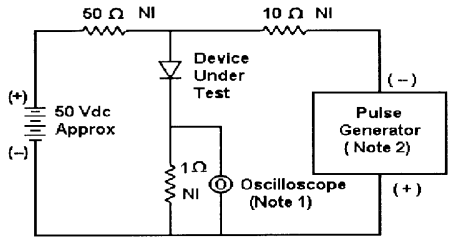


FIG-2 TYPICAL REVERSE CHARACTERISTICS





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-3 FORWARD CURRENT DERATING CURVE

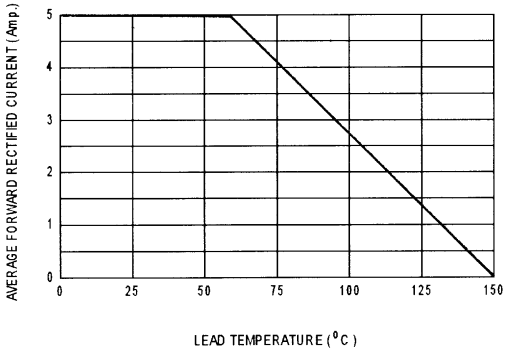


FIG-4 TYPICAL JUNCTION CAPACITANCE

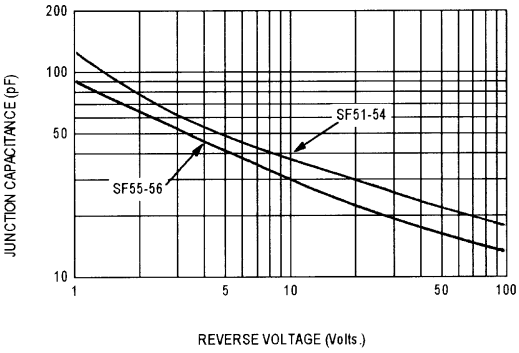
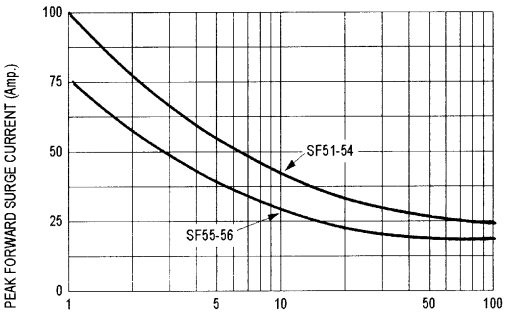


FIG-5 PEAK FORWARD SURGE CURRENT



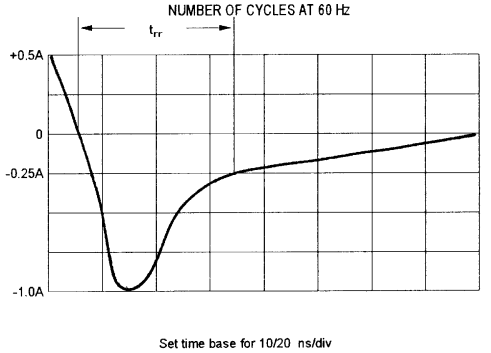


Fig-6 Reverse Recovery Time Characteristic and Test Circuit Diagram

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