MOSPEC

SF56M

ULTRAFAST RECTIFIERS

5 AMPERES
400 VOLTS

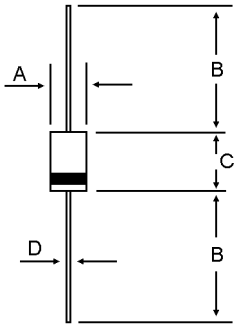
Switchmode Power Rectifiers

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
- ∗150℃ Operating Junction Temperature
- ∗Low Stored Charge Majority Carrier Conduction
- ∗Low Forward Voltage , High Current Capability
- ∗High-Switching Speed Recovery Time
- ∗Plastic Material used Carries Underwriters Laboratory
- ∗Flammability Classification 94V-O
- ∗*Pb free*
- ∗*In compliance with EU RoHs directives*
- ∗The marking is indicated by part no. with. “M”. ex:SF56M

DO-201AD



DIM	MILLIMETERS	
	MIN	MAX
A	5.00	5.60
B	25.40	---
C	8.50	9.50
D	1.18	1.22

CASE---
Transfer molded plastic

POLARITY---
Cathode indicated polarity band

MAXIMUM RATINGS

Characteristic	Symbol	SF56M	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_{R50}	400	V
RMS Reverse Voltage	$VR_{(RMS)}$	280	V
Average Rectifier Forward Current	I_O	5	A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfware, single phase,60Hz)	I_{FSM}	75	A
Operating and Storage Junction Temperature Range	T_J , T_{STG}	-65 to +150	℃

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Maximum Instantaneous Forward Voltage (I_F=5.0 Amp, T_C = 25℃) (I_F=5.0 Amp, T_C = 125℃)	V_F	--- ---	1.17 1.02	1.30 ---	V
Maximum Instantaneous Reverse Current (Rated DC Voltage, T_C = 25℃) (Rated DC Voltage, T_C = 125℃)	I_R	--- ---	0.02 5	5.0 ---	uA
Reverse Recovery Time (I_F = 0.5 A, I_R =1.0 , I_{rr} =0.25 A)	T_{rr}	---	---	50	ns
Typical Junction Capacitance (Reverse Voltage of 4 volts & f=1 MHz)	C_P		45		$_P$F

FIG-1 TYPICAL FORWARD CHARACTERSTICS

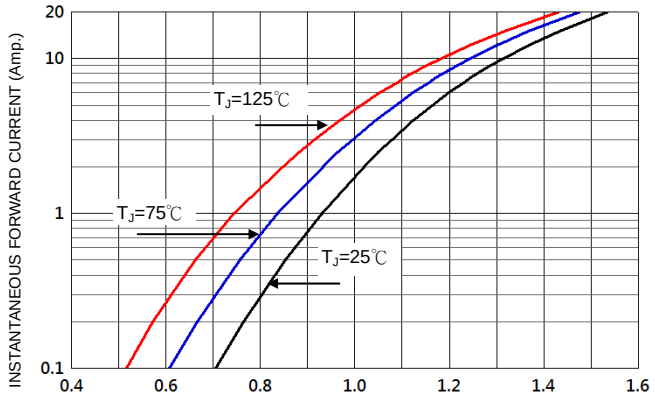


FIG-2 TYPICAL REVERSE CHARACTERISTICS

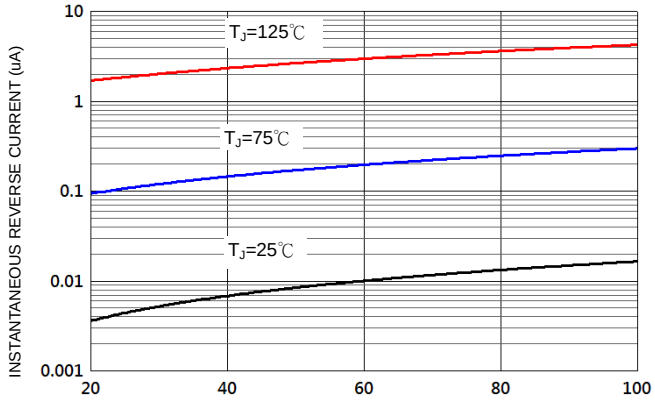


FIG-3 FORWARD CURRENT DERATING CURVE

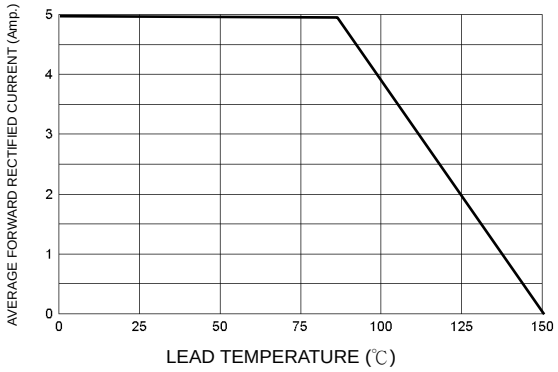


FIG-4TYPICAL JUNCTION CAPACITANCE

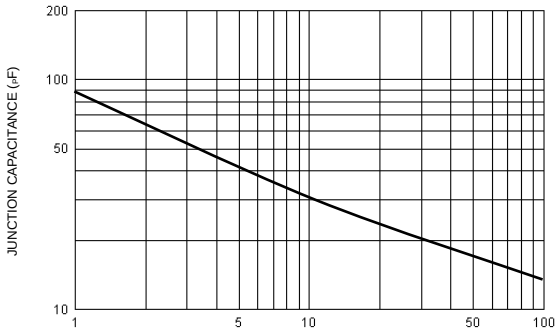
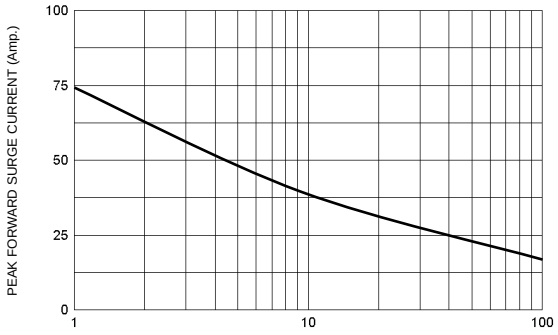
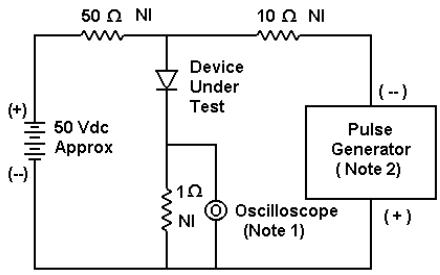
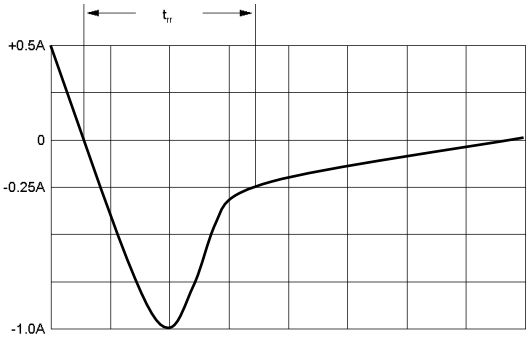


FIG-5PEAK FORWARD SURGE CURRENT





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

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