

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

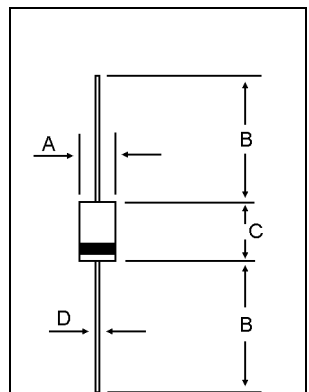
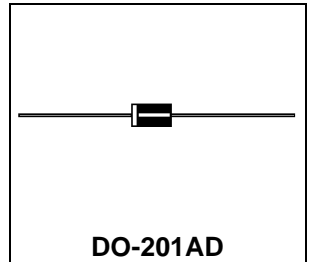
Features:

- * High Surge Capacity
- * Low Power Loss, High efficiency
- * 150°C 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*



**ULTRAFAST
RECTIFIERS**

**5.0 AMPERES
400 VOLTS**



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	$V_{R(RMS)}$	280	V
Average Rectifier Forward Current	I_O	5.0	A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfwave, single phase,60Hz)	I_{FSM}	75	A
Operating and Storage Junction Temperature Range	T_J , T_{STG}	-65 to +150	°C

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Maximum Instantaneous Forward Voltage ($I_F=5.0$ Amp, $T_C = 25^\circ C$) ($I_F=5.0$ Amp, $T_C = 125^\circ C$)	V_F	---	1.17 1.02	1.30 ---	V
Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_C = 25^\circ C$) (Rated DC Voltage, $T_C = 125^\circ C$)	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		pF

FIG-1 TYPICAL FORWARD CHARACTERISTICS

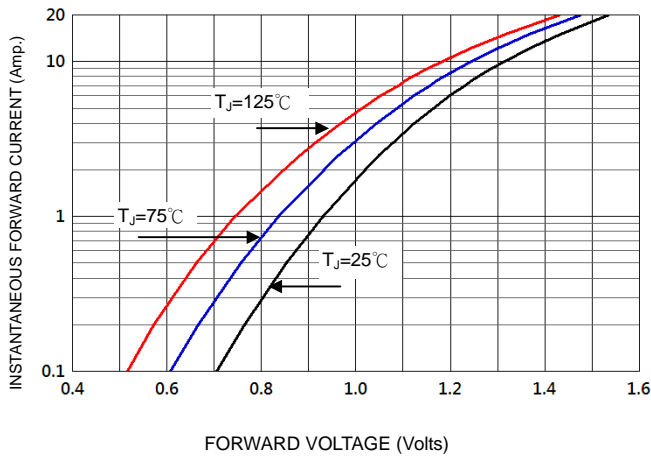


FIG-3 FORWARD CURRENT DERATING CURVE

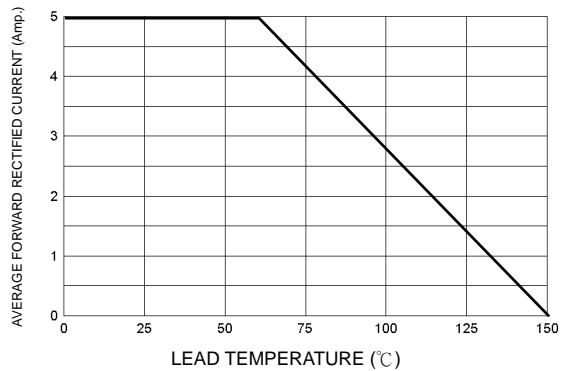


FIG-2 TYPICAL REVERSE CHARACTERISTICS

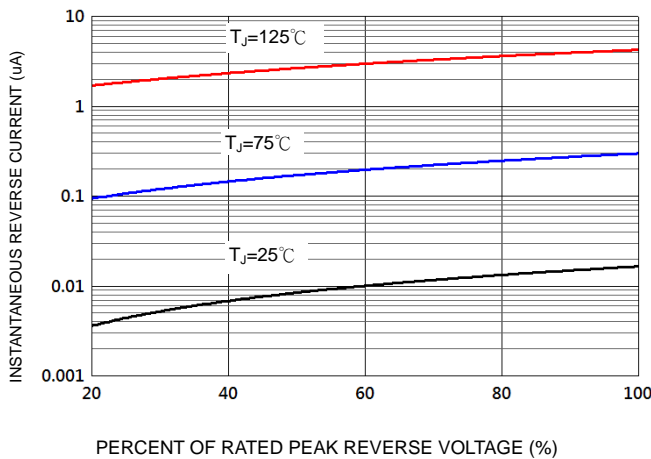


FIG-4 TYPICAL JUNCTION CAPACITANCE

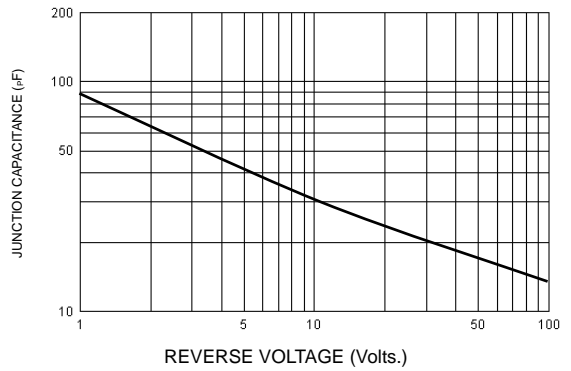
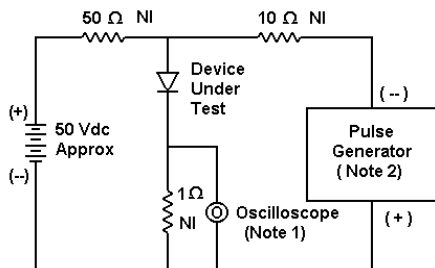
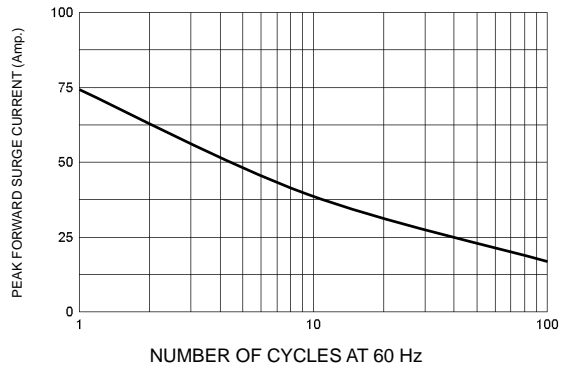
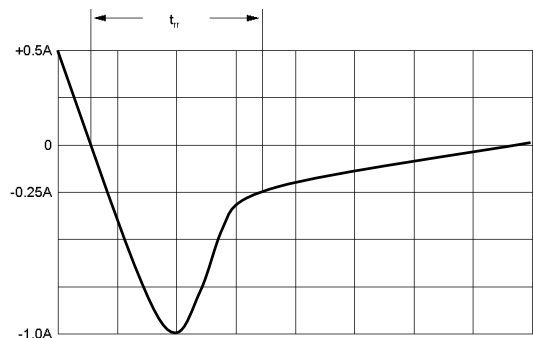


FIG-5 PEAK FORWARD SURGE CURRENT



- 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

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