MOSPEC

F12C05 Thru F12C20

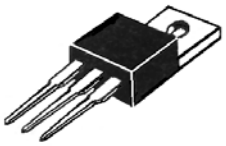
Switchmode
Dual Fast Recovery Power Rectifiers

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

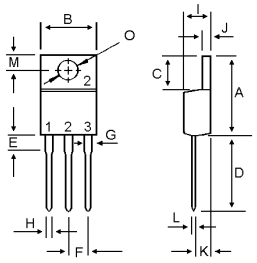
- ∗Glass Passivated chip junctions
- ∗Low Reverse Leakage Current
- ∗Fast Switching for High Efficiency
- ∗150℃ Operating Junction Temperature
- ∗Low Stored Charge Majority Carrier Conduction
- ∗Low Forward Voltage , High Current Capability
- ∗Plastic Material used Carries Underwriters Laboratory
- ∗Flammability Classification 94V-O
- ∗*Pb free*
- ∗*In compliance with EU RoHs directives*

FAST RECOVERY RECTIFIERS

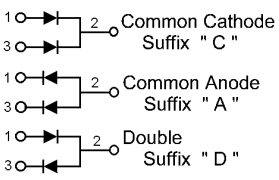
12 AMPERES
50-200 VOLTS



TO-220AB



DIM	MILLIMETERS	
	MIN	MAX
A	14.68	16.00
B	9.78	10.42
C	5.02	6.60
D	13.00	14.62
E	3.10	4.19
F	2.41	2.67
G	1.10	1.67
H	0.69	1.01
I	3.21	4.98
J	1.14	1.40
K	2.20	3.30
L	0.28	0.61
M	2.48	3.00
O	3.50	4.00



MAXIMUM RATINGS

Characteristic	Symbol	F12C				Unit
		05	10	15	20	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	50	100	150	200	V
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	105	140	V
Average Rectifier Forward Current Per Leg T_C=125℃ Per Total Device	$I_{F(AV)}$	6 12				A
Peak Repetitive Forward Current (Rate V_R, Square Wave, 20kHz)	I_{FM}	12				A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfware, single phase, 60Hz)	I_{FSM}	100				A
Operating and Storage Junction Temperature Range	T_J , T_{stg}	-65 to +150				℃

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	F12C				Unit
		05	10	15	20	
Maximum Instantaneous Forward Voltage (I_F =6 Amp T_C = 25℃)	V_F	1.30				V
Maximum Instantaneous Reverse Current (Rated DC Voltage, T_C = 25℃) (Rated DC Voltage, T_C = 125℃)	I_R	5.0 100				uA
Reverse Recovery Time (I_F = 0.5 A, I_R =1.0 , I_{rr} =0.25 A)	T_{rr}	150				ns
Typical Junction Capacitance (Reverse Voltage of 4 volts & f=1 MHz)	C_P	55				pF

FIG-1 TYPICAL FORWARD CHARACTERISTICS

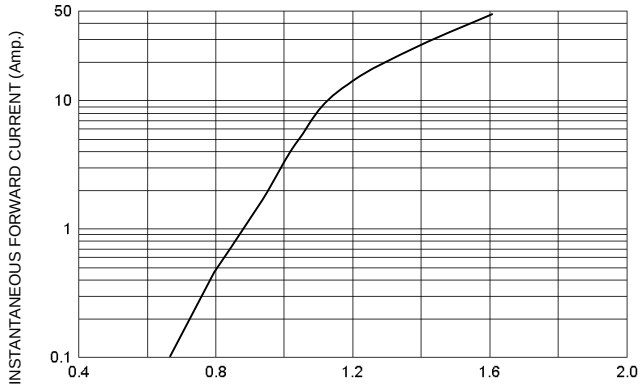


FIG-2 TYPICAL REVERSE CHARACTERISTICS

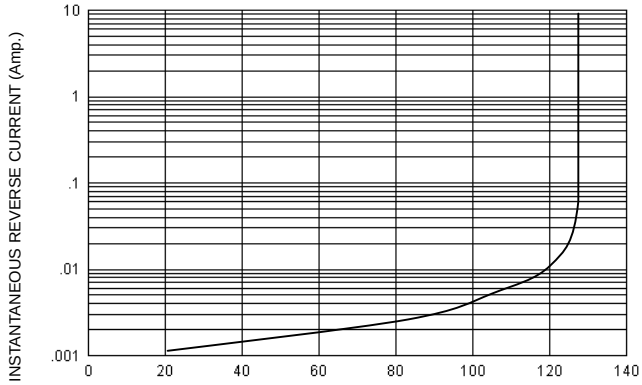


FIG-3 FORWARD CURRENT DERATING CURVE

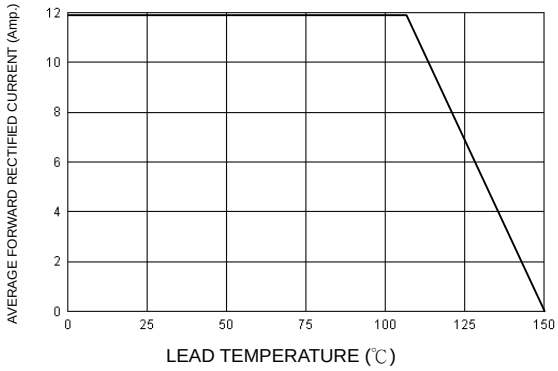


FIG-4TYPICAL JUNCTION CAPACITANCE

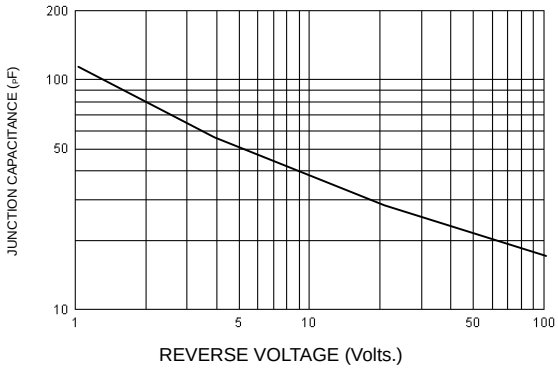
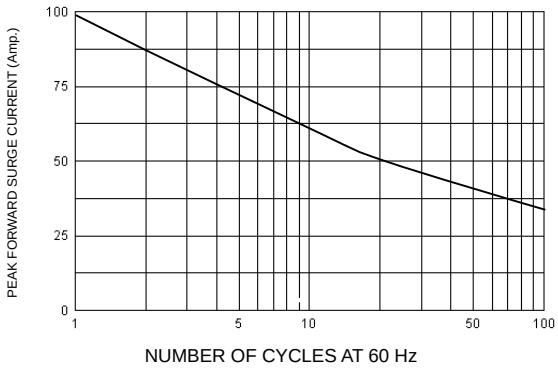
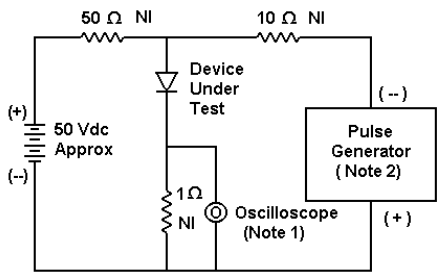
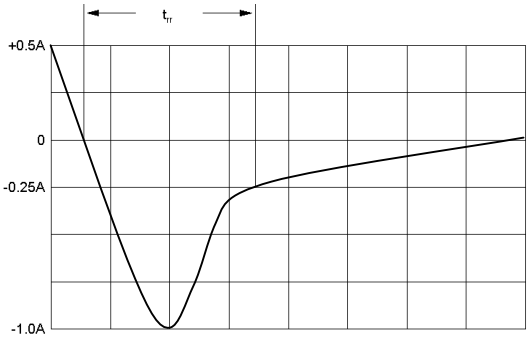


FIG-5PEAK FORWARD SURGE CURRENT





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 20/50 ns/cm

FIG-6 Reverse Recovery Time Characteristic and Test Circuit Diagram

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