

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°C Operating Junction Temperature
- * Low Forward Voltage , High Current Capability
- * Plastic Material used Carries Underwriters Laboratory
- * Flammability Classification 94V-O

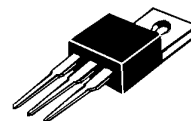
* **Pb Free**

* **In compliance with EU RoHs 2002/95/EC directives**



FAST RECOVERY RECTIFIERS

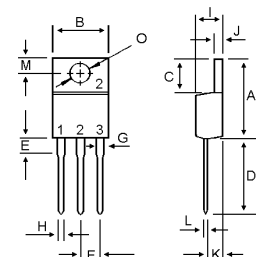
**10 AMPERES
300-600 VOLTS**



TO-220AB

MAXIMUM RATINGS

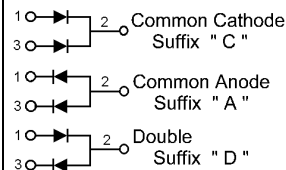
Characteristic	Symbol	F10C				Unit
		30	40	50	60	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	300	400	500	600	V
RMS Reverse Voltage	$V_{R(RMS)}$	210	280	350	420	V
Average Rectifier Forward Current Total Device (Rated V_R), $T_C=100^\circ\text{C}$	$I_{F(AV)}$	5.0 10				A
Peak Repetitive Forward Current (Rate V_R , Square Wave, 20kHz)	I_{FM}	10				A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfwave, single phase, 60Hz)	I_{FSM}	80				A
Operating and Storage Junction Temperature Range	T_J , T_{stg}	-65 to +150				°C



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

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	F10C				Unit
		30	40	50	60	
Maximum Instantaneous Forward Voltage ($I_F=5.0$ Amp $T_C=25^\circ\text{C}$) ($I_F=5.0$ Amp $T_C=125^\circ\text{C}$)	V_F	1.30 1.16		1.50 1.37		V
Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_C=25^\circ\text{C}$) (Rated DC Voltage, $T_C=125^\circ\text{C}$)	I_R	5.0 200				uA
Reverse Recovery Time ($I_F=0.5$ A, $I_R=1.0$, $I_{rr}=0.25$ A)	T_{rr}	250				ns
Typical Junction Capacitance (Reverse Voltage of 4 volts & $f=1$ MHz)	C_P	70				pF



F10C30 thru F10C60

FIG-1 TYPICAL FORWARD CHARACTERISTICS

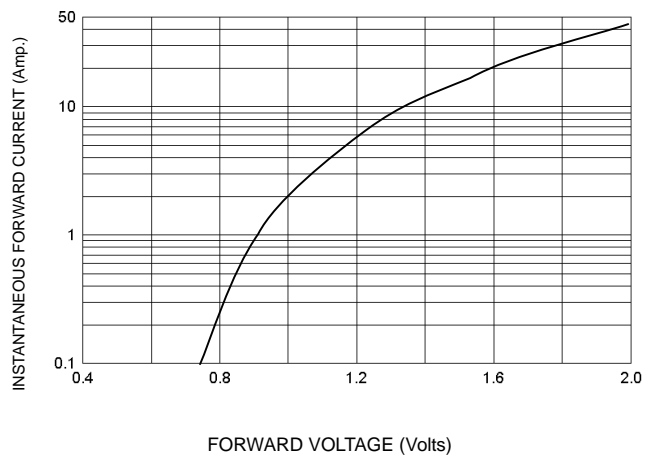


FIG-3 FORWARD CURRENT DERATING CURVE

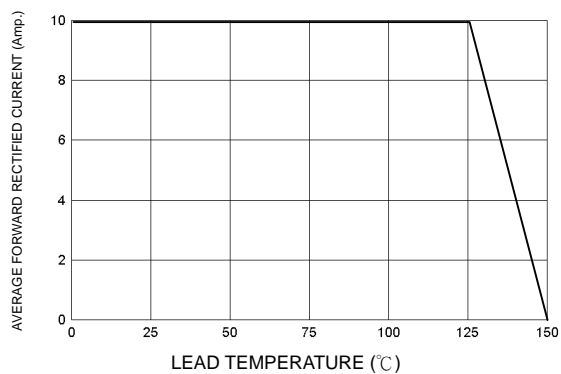


FIG-2 TYPICAL REVERSE CHARACTERISTICS

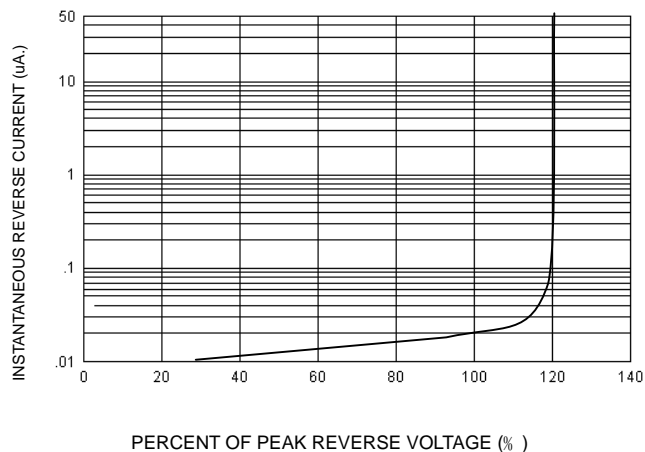


FIG-4 TYPICAL JUNCTION CAPACITANCE

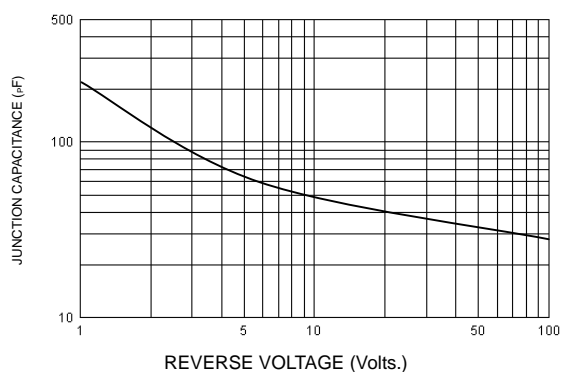
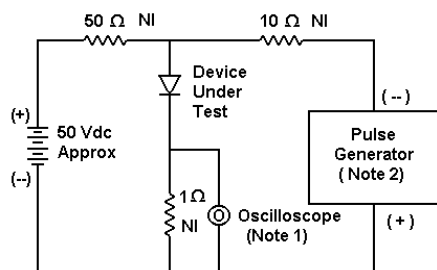
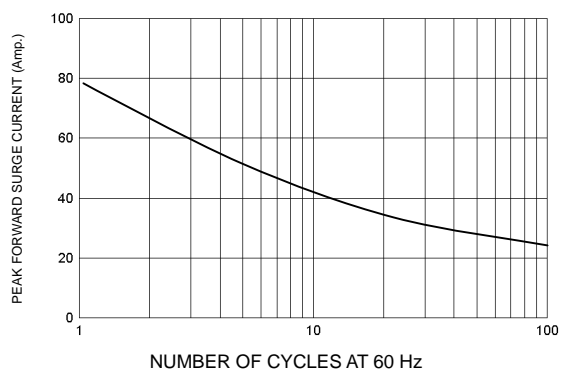
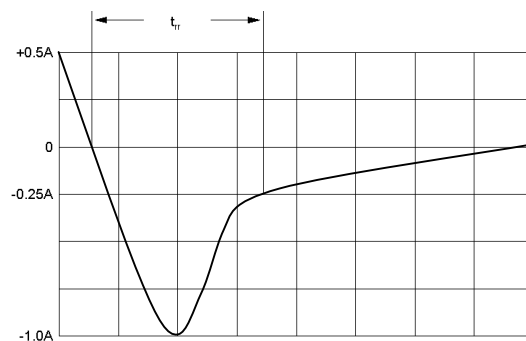


FIG-5 PEAK FORWARD SURGE CURRENT



- Notes:
1. Rise Time = 7 ns max. Input Impedance = 1 MΩ, 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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