

Ultra Fast Recovery Rectifier Diodes

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

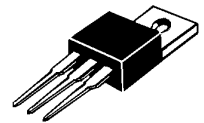
- * Low T_{RR}
- * High Surge Capacity
- * Low Power Loss, High efficiency
- * 175 Operating Junction Temperature
- * Low Forward Voltage , High Frequency
- * High-Switching Speed 21(typ.) Nanosecond Recovery Time
- * Plastic Material used Carries Underwriters Laboratory



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

**ULTRA FAST
RECTIFIERS**

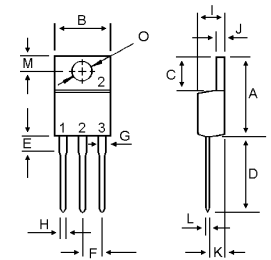
**30 AMPERES
600 VOLTS**



TO-220AB

MAXIMUM RATINGS

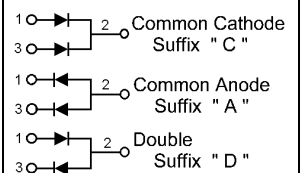
Characteristic	Symbol	UF30C60	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	600	V
RMS Reverse Voltage	$V_{R(RMS)}$	420	V
Average Rectifier Forward Current (per diode) Total Device (Rated V_R), $T_C=55$	$I_{F(AV)}$	15 30	A
Peak Repetitive Forward Current (Rate V_R , Square Wave, 20kHz, $T_C=125$)	I_{FM}	30	A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions half-wave, single phase, 60Hz)	I_{FSM}	225	A
Operating and Storage Junction Temperature Range	T_J , T_{stg}	-65 to +175	



DIM	MILLIMETERS	
	MIN	MAX
A	14.68	15.32
B	9.78	10.42
C	5.02	6.52
D	13.06	14.62
E	3.57	4.07
F	2.42	2.66
G	1.12	1.36
H	0.72	0.96
I	4.22	4.98
J	1.14	1.38
K	2.20	2.98
L	0.33	0.55
M	2.48	2.98
O	3.70	3.90

ELECTRIAL CHARACTERISTICS

Characteristic	Symbol	Min	TYPE	MAX.	Unit
Maximum Instantaneous Forward Voltage ($I_F = 15$ Amp $T_C = 25$) ($I_F = 15$ Amp $T_C = 125$)	V_F		2.2 2.3	2.5 2.4	V
Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_C = 25$) (Rated DC Voltage, $T_C = 125$)	I_R			30 20	μ A mA
Reverse Recovery Time ($I_F = 0.5$ A, $I_R = 1.0$, $I_{rr} = 0.25$ A)	T_{rr}		28	30	ns
Typical Thermal Resistance junction to case	$R_{\theta j-c}$		3.8		/w



UF30C60

FIG-1 TYPICAL FORWARD CHARACTERISTICS

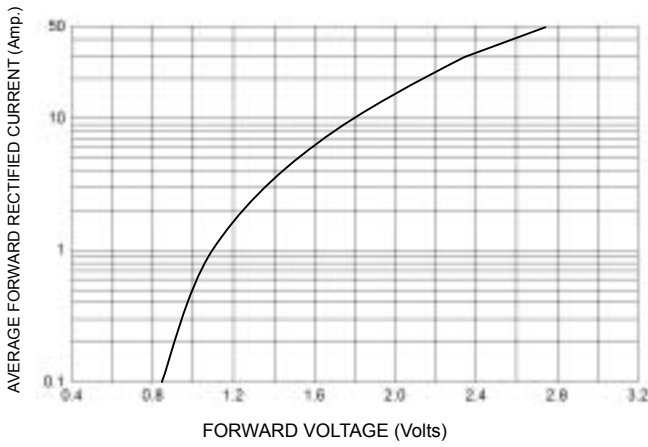


FIG-3 FORWARD CURRENT DERATING CURVE

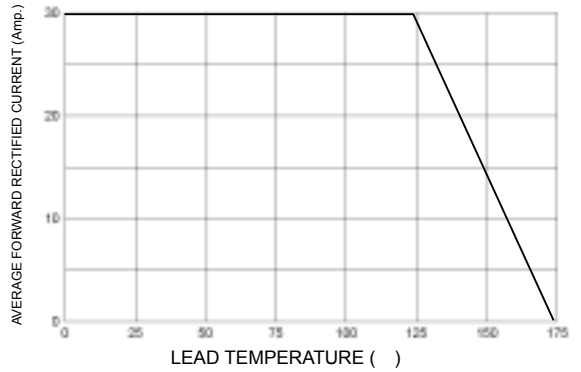


FIG-2 TYPICAL REVERSE CHARACTERISTICS

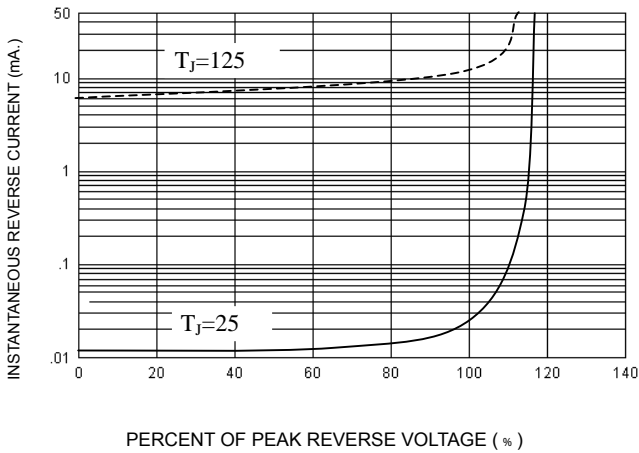


FIG-4 TYPICAL JUNCTION CAPACITANCE

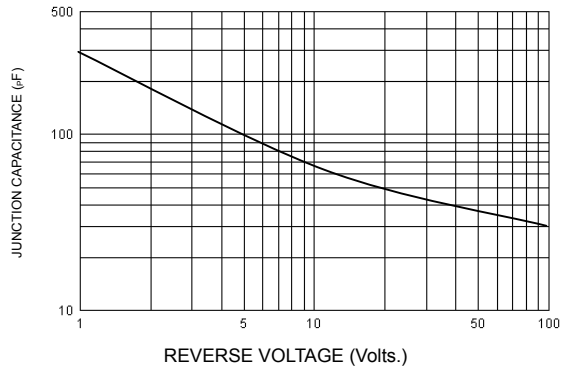
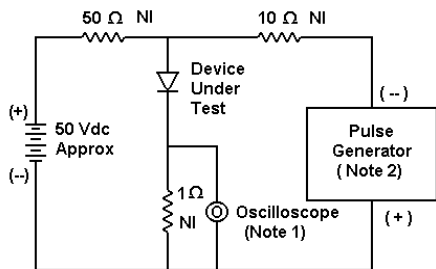
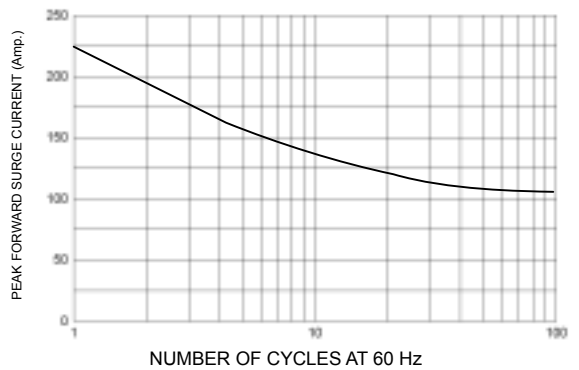
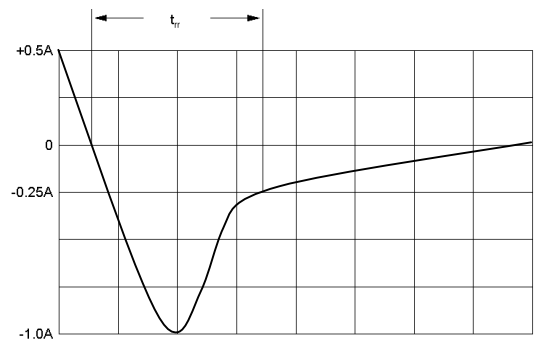


FIG-5 PEAK FORWARD SURGE CURRENT



- 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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