

Switchmode Dual Ultrafast Power Rectifiers

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

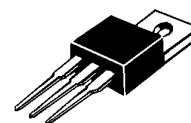
Features

- * 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*



**Ultrafast Power
RECTIFIERS**

**12 AMPERES
200 VOLTS**



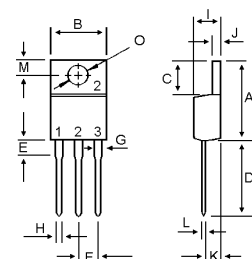
TO-220AB

MAXIMUM RATINGS

Characteristic	Symbol	UE12C20C	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	200	V
RMS Reverse Voltage	$V_{R(RMS)}$	140	V
Average Rectifier Forward Current (per diode) Total Device (Rated V_R)	$I_{F(AV)}$	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 halfwave, single phase, 60Hz)	I_{FSM}	100	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 ($I_F = 6$ Amp $T_C = 25^\circ\text{C}$) ($I_F = 6$ Amp $T_C = 125^\circ\text{C}$)	V_F	---	0.93 0.80	0.975 ---	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	---	0.01 2	5 ---	uA
Reverse Recovery Time ($I_F = 0.5$ A, $I_R = 1.0$, $I_{rr} = 0.25$ A)	T_{rr}	---	16	35	ns
Typical Thermal Resistance junction to case	$R_{\theta jc}$		3.0		°C/w
Typical Junction Capacitance (Reverse Voltage of 4 volts & f=1 MHz)	C_P		38		pF



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	4.22	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

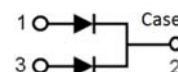


FIG-1 TYPICAL FORWARD CHARACTERISTICS

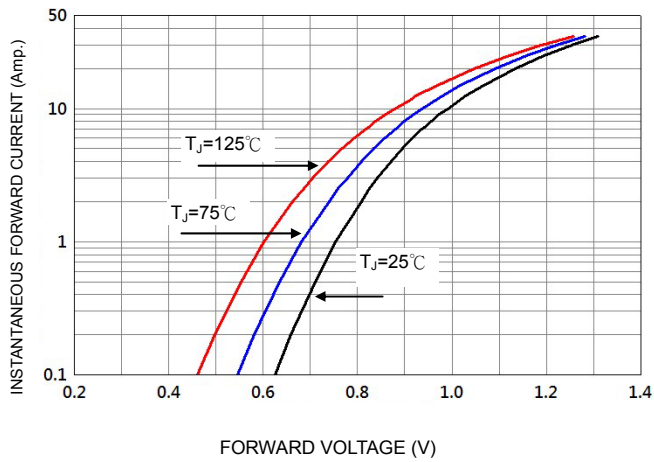


FIG-3 FORWARD CURRENT DERATING CURVE

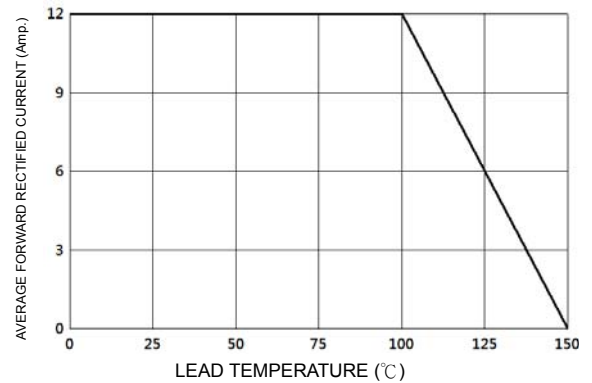


FIG-2 TYPICAL REVERSE CHARACTERISTICS

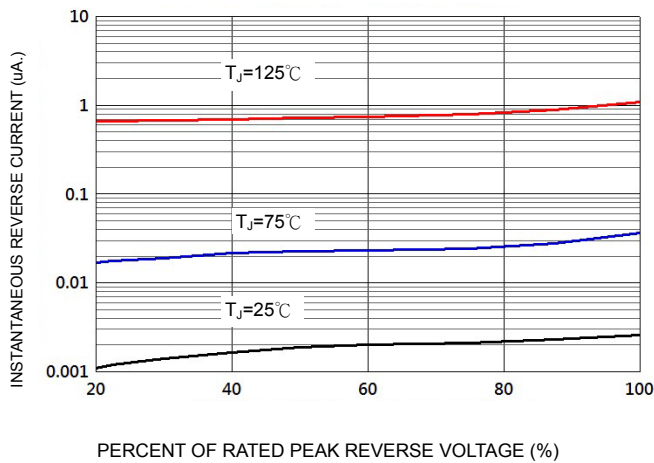


FIG-4 TYPICAL JUNCTION CAPACITANCE

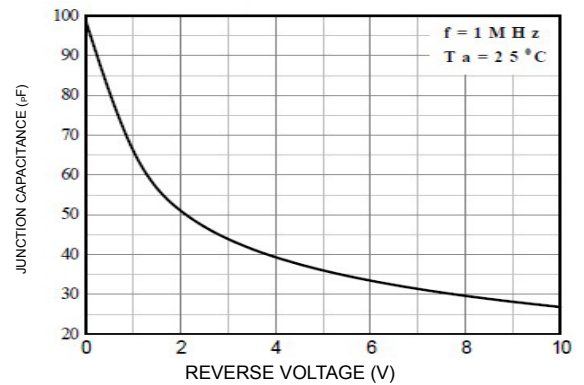
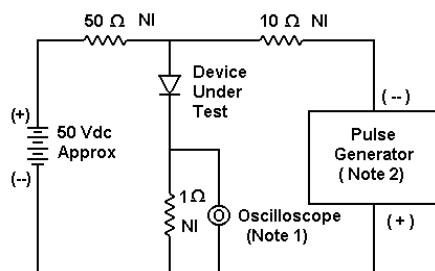
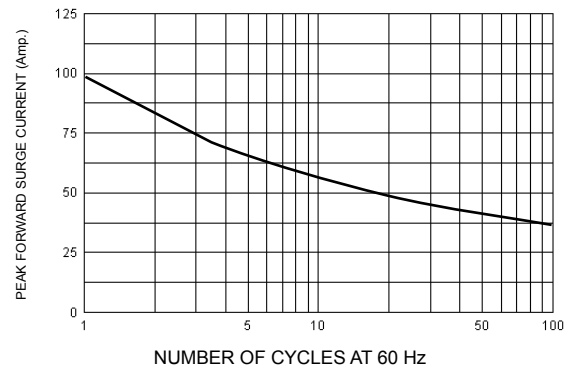
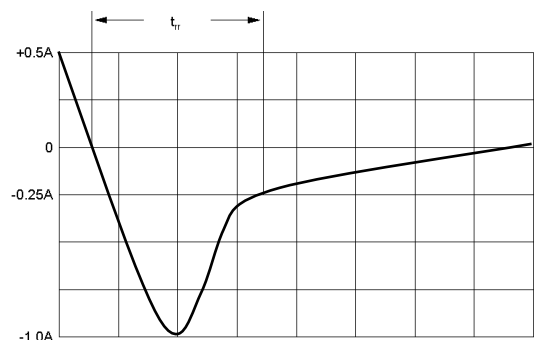


FIG-5 PEAK FORWARD SURGE CURRENT



- Notes:
1. Rise Time = 7 ns max. Input Impedance = $1 \text{ M}\Omega$, 22 pF
 2. Rise Time = 10 ns max. Input Impedance = 50Ω



Set time base for 10/20 ns/cm

FIG-6 Reverse Recovery Time Characteristic and Test Circuit Diagram

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