

Single Ultra Fast Recovery Rectifier Diode

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

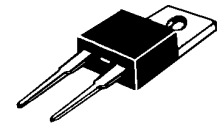
Features

- * Low T_{RR}
- * High Surge Capacity
- * Low Power Loss, High efficiency
- * 175°C Operating Junction Temperature
- * Low Forward Voltage, High Frequency
- * High-Switching Speed Recovery Time
- * Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-0
- * *Pb free*
- * *In compliance with EU RoHs directives*



**ULTRA FAST
RECTIFIER**

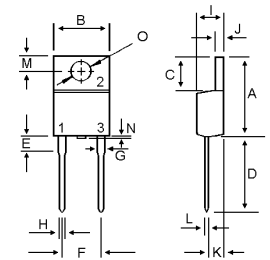
**15 AMPERES
600 VOLTS**



TO-220A

MAXIMUM RATINGS

Characteristic	Symbol	UFE15A60	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	$I_{F(AV)}$	15	A
Peak Repetitive Forward Current (Rate V_R , Square Wave, 20kHz)	I_{FM}	15	A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions half-wave, single phase, 60Hz)	I_{FSM}	150	A
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-65 to +175	°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	4.82	5.34
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
N	---	2.00
O	3.50	4.00

THERMAL RESISTANCES

Typical Thermal Resistance junction to case	$R_{\theta jc}$	4.2	°C/W
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ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Maximum Instantaneous Forward Voltage ($I_F = 15$ Amp $T_C = 25^\circ C$) ($I_F = 15$ Amp $T_C = 125^\circ C$)	V_F	---	1.90 1.30	2.5 ---	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	30 ---	uA
Reverse Recovery Time ($I_F = 0.5$ A, $I_R = 1.0$, $I_{rr} = 0.25$ A)	T_{rr}	---	24	30	ns

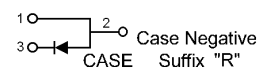
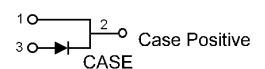


FIG-1 TYPICAL FORWARD CHARACTERISTICS

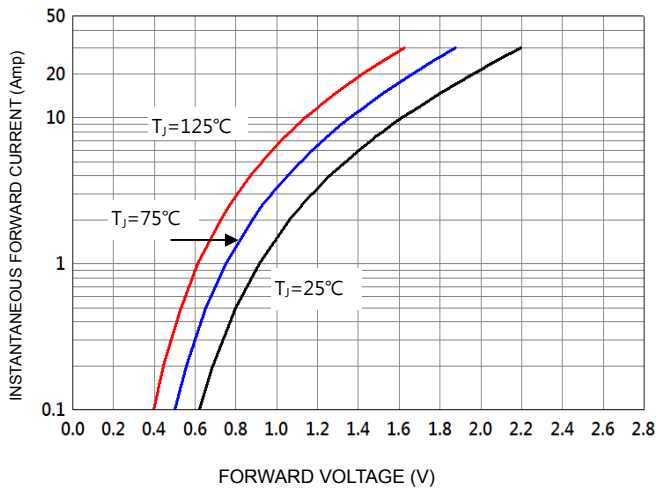


FIG-2 FORWARD CURRENT DERATING CURVE

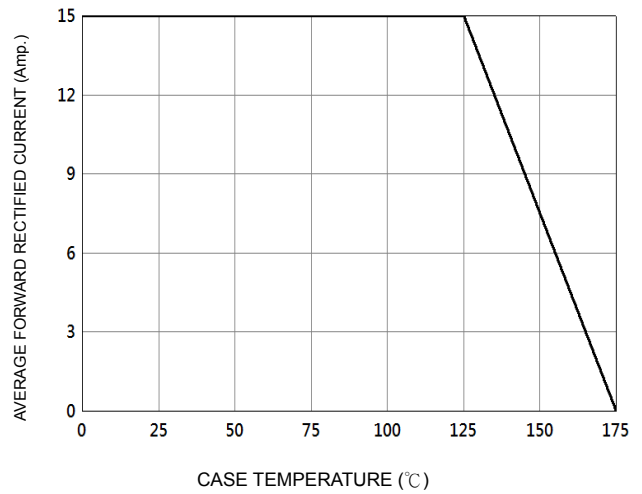


FIG-3 TYPICAL REVERSE CHARACTERISTICS

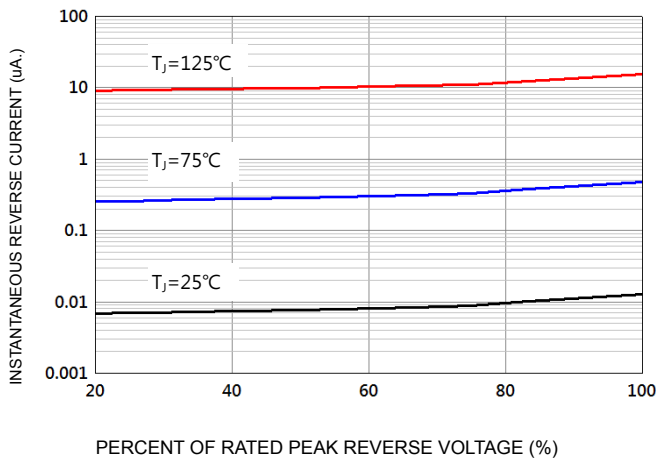
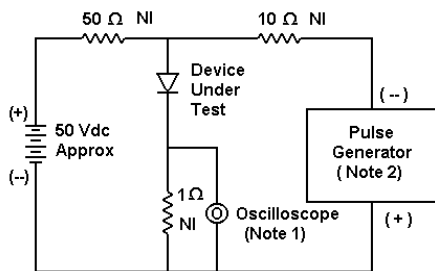
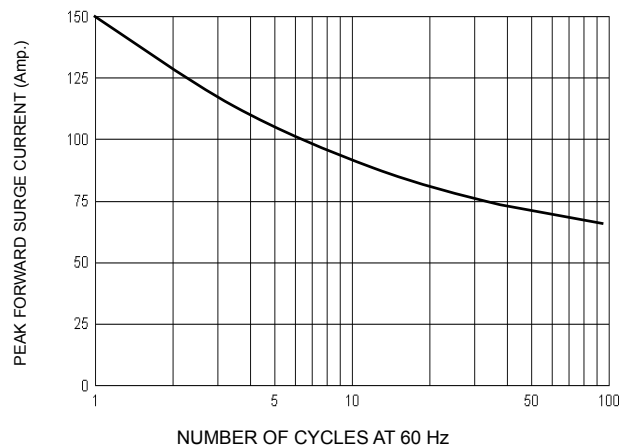
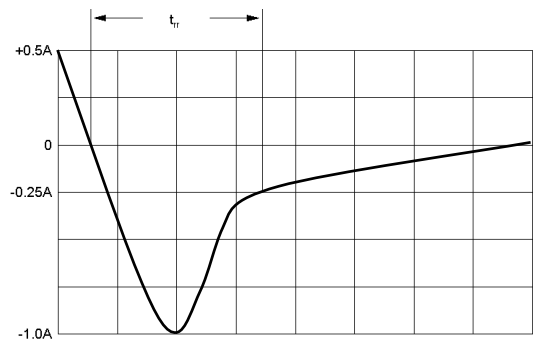


FIG-4 PEAK FORWARD SURGE CURRENT



- 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-5 Reverse Recovery Time Characteristic and Test Circuit Diagram

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