MOSPEC

URAF1505 Thru URAF1520

Switchmode
Full Plastic 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
- ✳Glass Passivated chip junctions
- ✳150℃ Operating Junction Temperature
- ✳Low Stored Charge Majority Carrier Conduction
- ✳Low Forward Voltage , High Current Capability
- ✳High-Switching Speed 35 Nanosecond Recovery Time
- ✳Plastic Material used Carries Underwriters Laboratory

ULTRA FAST RECTIFIERS

15 AMPERES
50-200 VOLTS

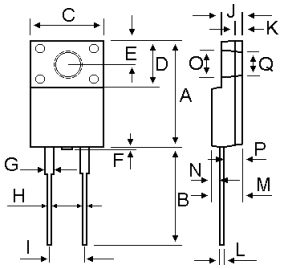
ITO-220AC

MAXIMUM RATINGS

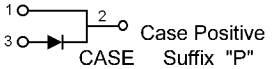
Characteristic	Symbol	URAF15				Unit
		05	10	15	20	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	50	100	150	200	V
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	105	140	V
Average Rectifier Forward Current Per Leg T_C=55℃	$I_{F(AV)}$	15				A
Peak Repetitive Forward Current (Rate V_R, Square Wave, 20kHz,℃)	I_{FM}	30				A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions half-ware, single phase, 60Hz)	I_{FSM}	250				A
Operating and Storage Junction Temperature Range	T_J , T_{stg}	-65 to +150				℃

ELECTRIAL CHARACTERISTICS

Characteristic	Symbol	URAF15				Unit
		05	10	15	20	
Maximum Instantaneous Forward Voltage (I_F =15 Amp T_C = 25℃) (I_F =15 Amp T_C = 125℃)	V_F	0.975 0.870				V
Maximum Instantaneous Reverse Current (Rated DC Voltage, T_C = 25℃) (Rated DC Voltage, T_C = 125℃)	I_R	10 500				uA
Reverse Recovery Time (I_F = 0.5 A, I_R =1.0 , I_{rr} =0.25 A)	T_{rr}	35				ns
Typical Junction Capacitance (Reverse Voltage of 4 volts & f=1 MHz)	C_P	250				pF



DIM	MILLIMETERS	
	MIN	MAX
A	15.05	15.15
B	13.35	13.45
C	10.00	10.10
D	6.55	6.65
E	2.65	2.75
F		1.00
G	1.15	1.25
H	0.55	0.65
I	4.80	3.20
J	3.00	3.20
K	1.10	1.20
L	0.55	0.65
M	4.40	4.60
N	1.15	1.25
P	2.65	2.75
O	3.35	3.45
Q	3.15	3.25



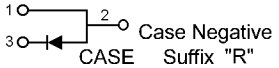


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FIG-1 TYPICAL FORWARD CHARACTERISITICS

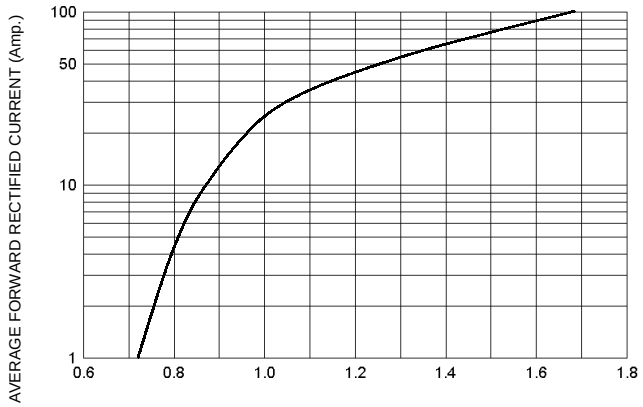


FIG-2 TYPICAL REVERSE CHARACTERISTICS

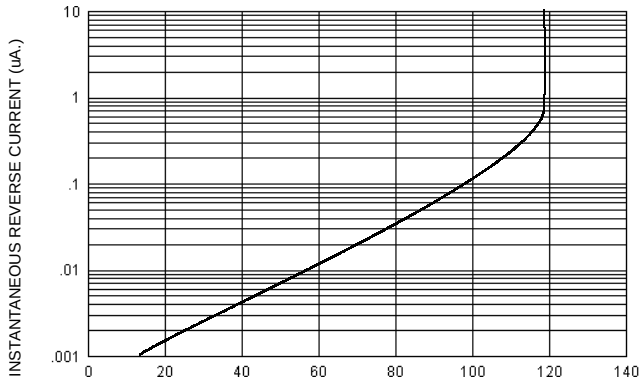


FIG-3 FORWARD CURRENT DERATING CURVE

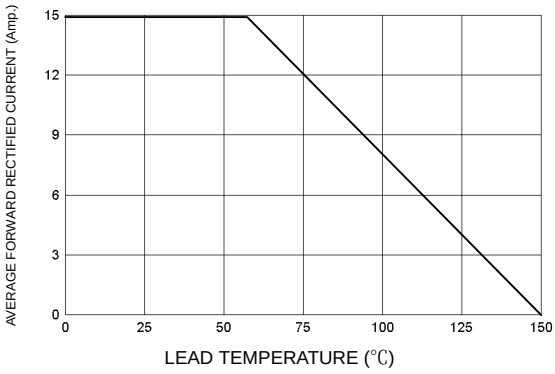


FIG-4TYPICAL JUNCTION CAPACITANCE

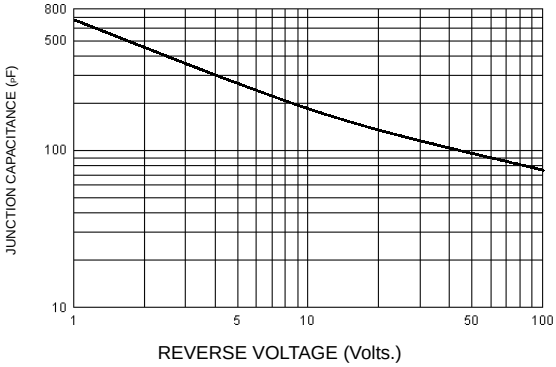
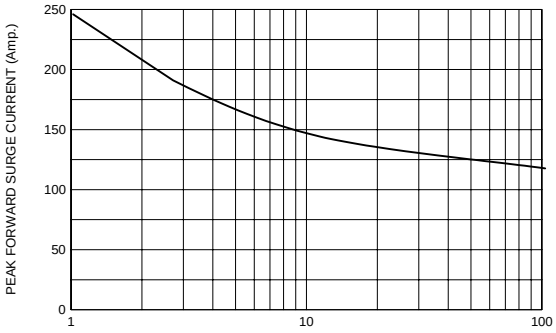
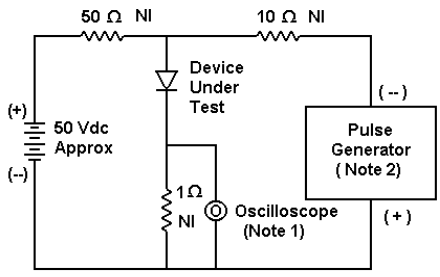
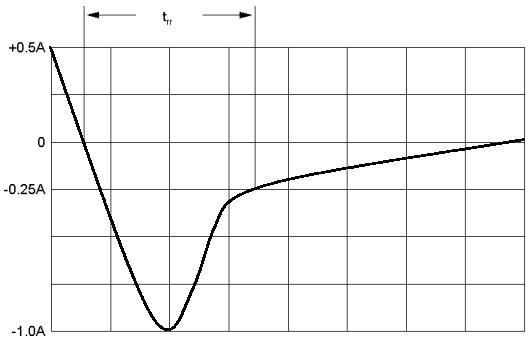


FIG-5PEAK FORWARD SURGE CURRENT





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 10/20 ns/cm

FIG-6 Reverse Recovery Time Characteristic and Test Circuit Diagram

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