MOSPEC

URF1005 Thru URF1020

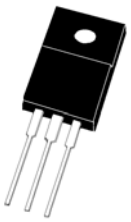
Switchmode
Full Plastic Dual Ultrafast Power Rectifiers

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

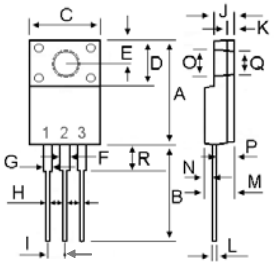
- ∗High Surge Capacity
- ∗Low Power Loss, High efficiency
- ∗Glass Passivated chip junctions
- ∗175℃ Operating Junction Temperature
- ∗Low Stored Charge Majority Carrier Conduction
- ∗Low Forward Voltage , High Current Capability
- ∗High-Switching Speed 35 Nanosecond Recovery Time
- ∗Plastic Material used Carries Underwriters Laboratory
- ∗Flammability Classification 94V-O
- ∗*Pb free*
- ∗*In compliance with EU RoHs directives*

Ultrafast Power
RECTIFIERS

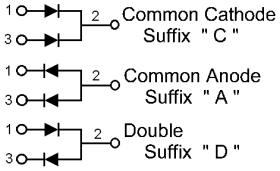
10 AMPERES
50~200 VOLTS



ITO-220AB



DIM	MILLIMETERS	
	MIN	MAX
A	14.80	16.10
B	12.65	13.80
C	9.85	10.36
D	4.60	6.80
E	2.50	3.50
F	1.00	1.45
G	1.00	1.45
H	0.30	0.90
I	2.40	2.70
J	2.34	3.30
K	0.55	1.30
L	0.36	0.80
M	4.20	4.90
N	1.10	1.80
O	2.90	3.50
P	2.50	3.15
Q	2.90	3.50
R	3.10	4.85



MAXIMUM RATINGS

Characteristic	Symbol	URF10				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 Total Device (Rated V_R),T_C=100℃	$I_{F(AV)}$	5.0 10				A
Peak Repetitive Forward Current (Rate V_R, Square Wave, 20kHz,T_C=125℃)	I_{FM}	10				A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions half-ware, single phase, 60Hz)	I_{FSM}	100				A
Operating and Storage Junction Temperature Range	T_J , T_{stg}	-65 to +175				℃

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	URF10				Unit
		05	10	15	20	
Maximum Instantaneous Forward Voltage (I_F =5.0 Amp T_C = 25℃) (I_F =5.0 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	5.0 200				uA
Reverse Recovery Time (I_F = 0.5 A, I_R =1.0 , I_{rr} =0.25 A)	T_{rr}	35				ns
Typical Thermal Resistance junction to case	$R_{\theta JC}$	4.5				℃/w
Typical Junction Capacitance (Reverse Voltage of 4 volts & f=1 MHz)	C_P	55				pF

FIG-1 TYPICAL FORWARD CHARACTERISTICS

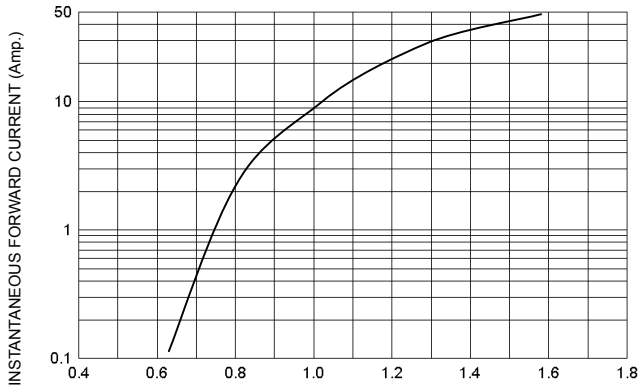


FIG-2 TYPICAL REVERSE CHARACTERISTICS

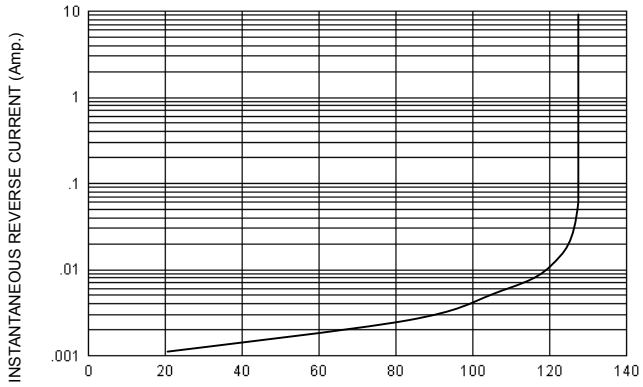


FIG-3 FORWARD CURRENT DERATING CURVE

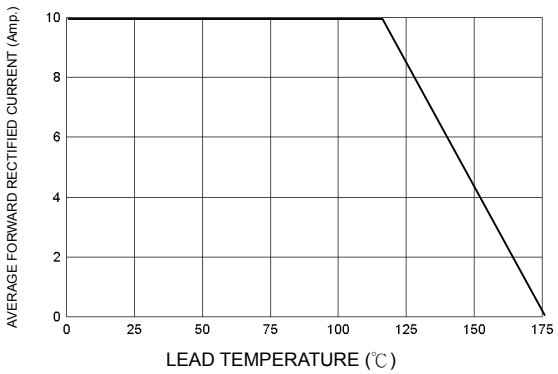


FIG-4TYPICAL JUNCTION CAPACITANCE

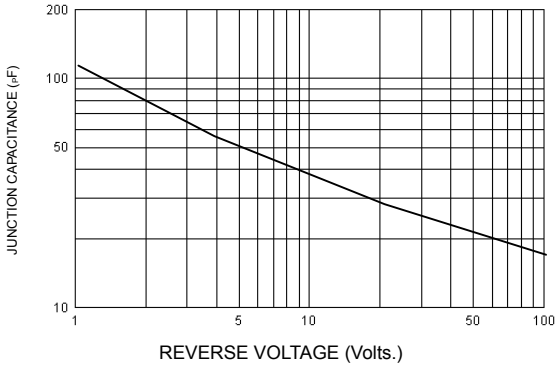
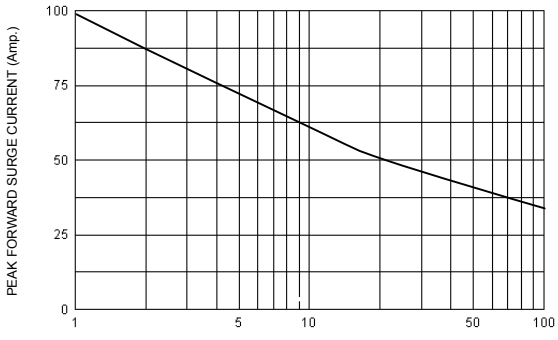
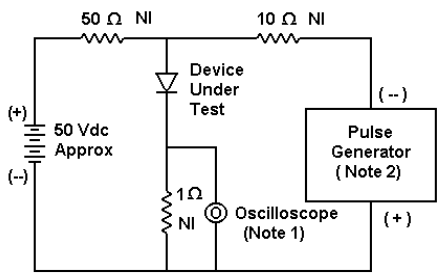
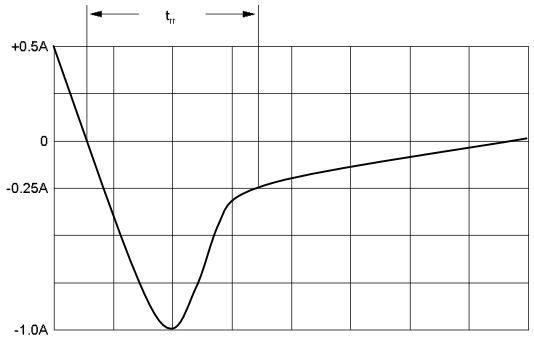


FIG-5PEAK FORWARD SURGE CURRENT





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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