MOSPEC

URF1040C

Switchmode
Full Plastic Dual Ultrafast Power Rectifiers

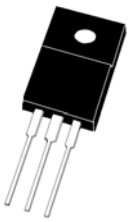
…Designed for use in switching power supplies. inverters and as free wheeling diodes. These state-of-the-art devices have the following

Features

- ＊High Surge Capacity
- ＊Low Power Loss, High efficiency
- ＊150℃ Operating Junction Temperature
- ＊Low Stored Charge Majority Carrier Conduction
- ＊Low Forward Voltage , High Current Capability
- ＊High-Switching Speed 50 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
400 VOLTS



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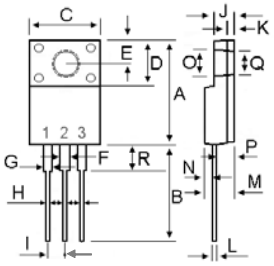
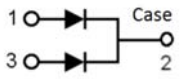


DIM	MILLIMETERS	
	MIN	MAX
A	14.80	16.10
B	12.65	13.80
C	9.85	10.36
D	4.60	6.80
E	2.50	3.50
F	1.00	1.45
G	1.00	1.45
H	0.30	0.90
I	2.40	2.70
J	2.34	3.30
K	0.55	1.30
L	0.36	0.80
M	4.20	4.90
N	1.10	1.80
O	2.90	3.50
P	2.50	3.15
Q	2.90	3.50
R	3.10	4.85



MAXIMUM RATINGS

Characteristic	Symbol	URF1040C	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	400	V
RMS Reverse Voltage	$V_{R(RMS)}$	280	V
Average Rectifier Forward Current Total Device (Rated V_R),T_C=100℃	$I_{F(AV)}$	5 10	A
Peak Repetitive Forward Current (Rate V_R, Square Wave, 20kHz)	I_{FM}	10	A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions half-wave, single phase, 60Hz)	I_{FSM}	100	A
Operating Junction Temperature	T_{Jg}	150	℃
Storage Temperature Range	T_{stg}	-65 to +150	℃

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Maximum Instantaneous Forward Voltage (I_F =5 Amp T_C = 25℃) (I_F =5 Amp T_C = 125℃)	V_F	--- ---	1.20 0.97	1.30 ----	V
Maximum Instantaneous Reverse Current (Rated DC Voltage, T_C = 25℃) (Rated DC Voltage, T_C = 125℃)	I_R	--- ---	0.01 1.5	5 ---	uA
Reverse Recovery Time (I_F = 0.5 A, I_R =1.0 , I_{rr} =0.25 A)	T_{rr}	---	---	50	ns
Typical Thermal Resistance junction to case	$R_{\theta jc}$		3.6		℃/w
Typical Junction Capacitance (Reverse Voltage of 4 volts & f=1 MHz)	C_P		70		pF

FIG-1 TYPICAL FORWARD CHARACTERISTICS

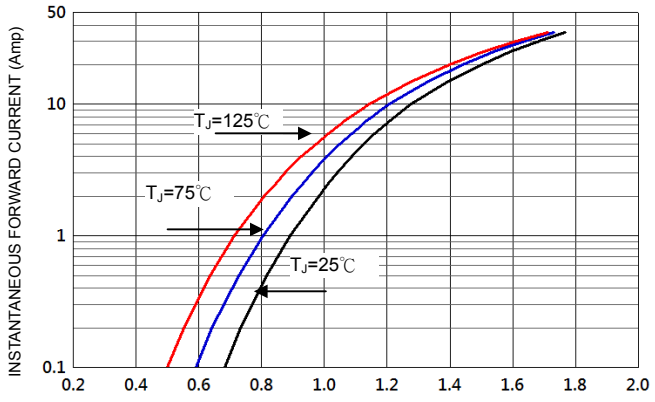


FIG-2 TYPICAL REVERSE CHARACTERISTICS

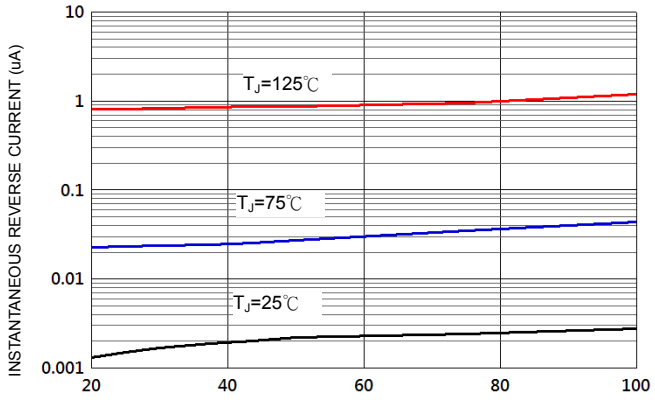


FIG-3 FORWARD CURRENT DERATING CURVE

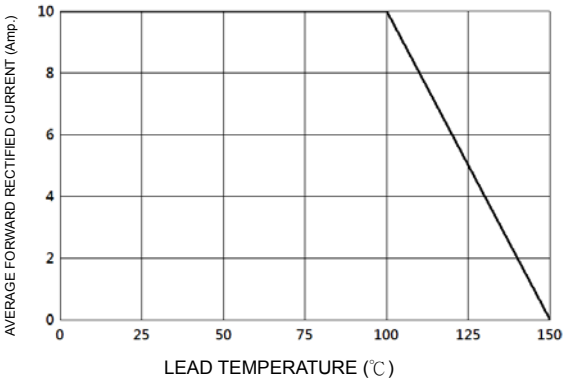


FIG-4TYPICAL JUNCTION CAPACITANCE

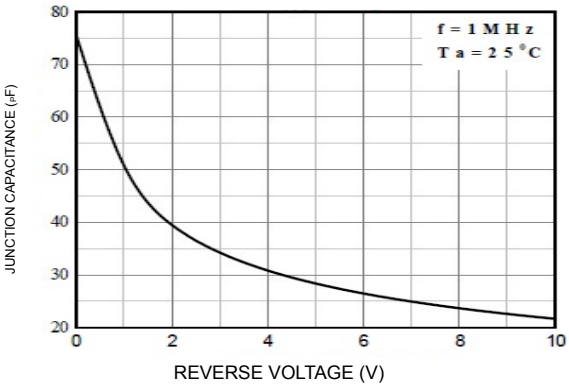
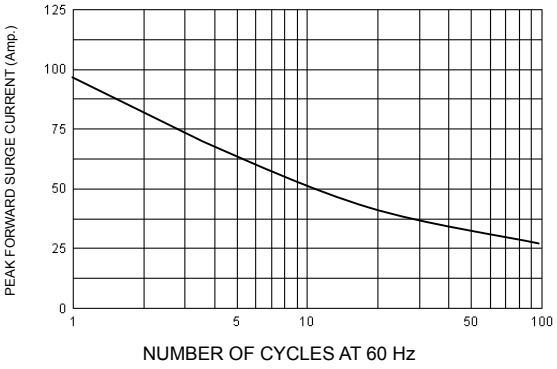
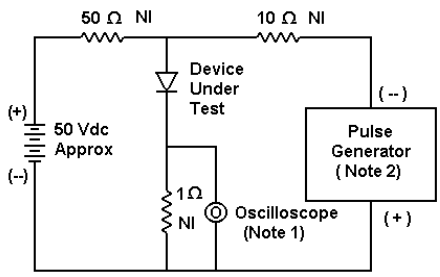
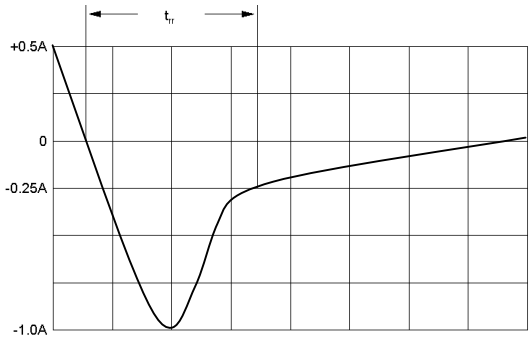


FIG-5PEAK FORWARD SURGE CURRENT





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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