MOSPEC

F30D30 thru F30D60

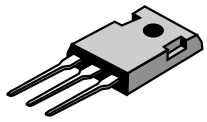
Switchmode
Dual Fast Recovery Power Rectifiers

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

* Glass Passivated chip junctions
* Low Reverse Leakage Current
* Fast Switching for High Efficiency
* 150 °C Operating Junction Temperature
* Low Forward Voltage , High Current Capability
* Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-O

FAST RECOVERY RECTIFIERS

30 AMPERES
300 -- 600 VOLTS



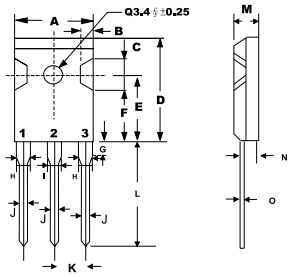
TO-247 (3P)

MAXIMUM RATINGS

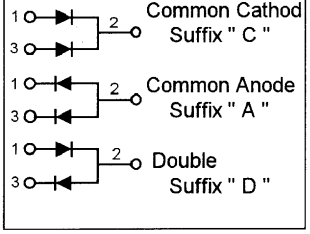
Characteristic	Symbol	F30D				Unit
		30	40	50	60	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	300	400	500	600	V
RMS Reverse Voltage	$V_{R(RMS)}$	210	280	350	420	V
Average Rectifier Forward Current Per Leg T_C=125°C Per Total Device	$I_{F(AV)}$	15 30				A
Peak Repetitive Forward Current (Rate V_R ,Square Wave,20kHz,T_C=125°C)	I_{FM}	30				A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfware,single phase,60Hz)	I_{FSM}	200				A
Operating and Storage Junction Temperature Range	T_J , T_{stg}	- 65 to + 150				°C

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	F30D				Unit
		30	40	50	60	
Maximum Instantaneous Forward Voltage (I_F=15 Amp, T_C = 25 °C)	V_F	1.30				V
Maximum Instantaneous Reverse Current (Rated DC Voltage, T_C = 25 °C) (Rated DC Voltage, T_C = 125 °C)	I_R	10 700				uA
Reverse Recovery Time (I_F = 0.5 A, I_R =1.0 , I_{rr} =0.25 A)	T_{rr}	250				ns
Typical Junction Capacitance (Reverse Voltage of 4 volts & f=1 MHz)	C_P	150		120		pF



DIM	MILLMETERS	
	MIN	MAX
A	--	16.2
B	1.7	2.7
C	5.0	6.0
D	--	23.0
E	14.8	15.2
F	11.7	12.7
G	--	4.5
H	--	2.5
I	--	3.5
J	1.1	1.4
K	5.25	5.65
L	19	--
M	4.7	5.3
N	2.8	3.2
O	0.45	0.85



F30D30 Thru F30D60

FIG-1 TYPICAL FORWARD CHARACTERISTICS

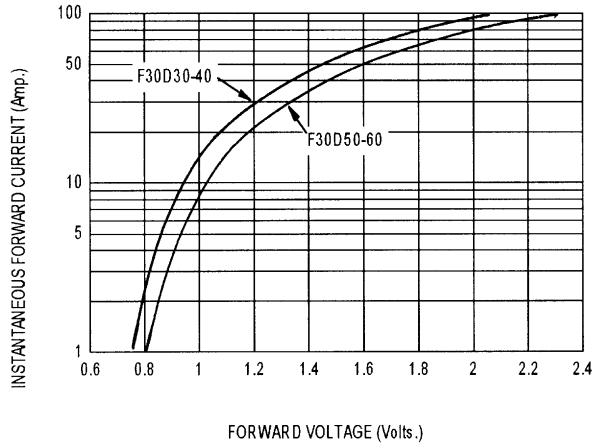
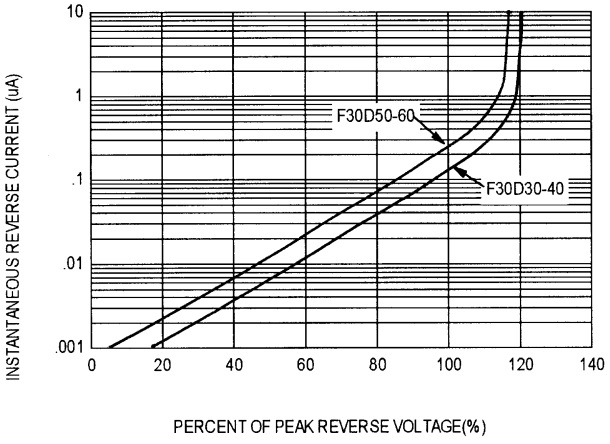
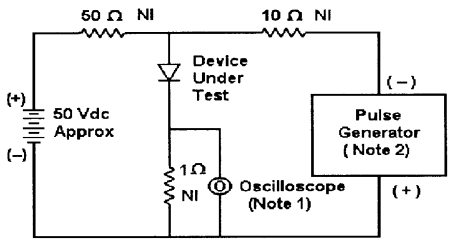


FIG-2 TYPICAL REVERSE CHARACTERISTICS





Notes:
1. Rise Time = 7 ns max. Input Impedance =1 M Ω , 22 pF
2. Rise Time = 10 ns max. Input Impedance = 50 Ω

FIG-3 FORWARD CURRENT DERATING CURVE

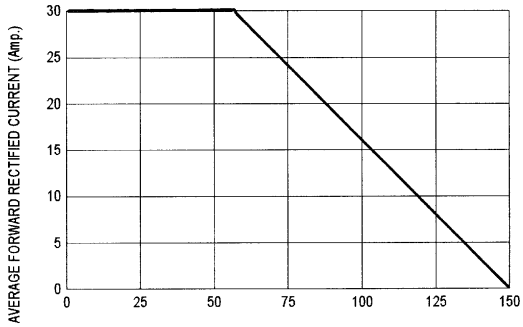


FIG-4 TYPICAL JUNCTION CAPACITANCE

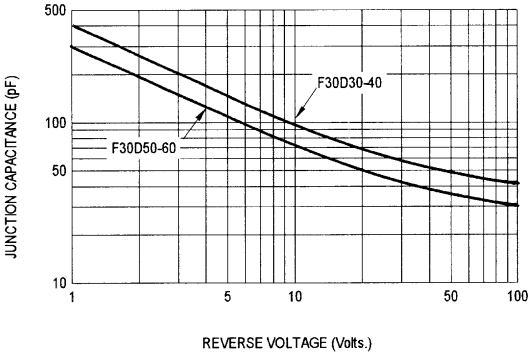
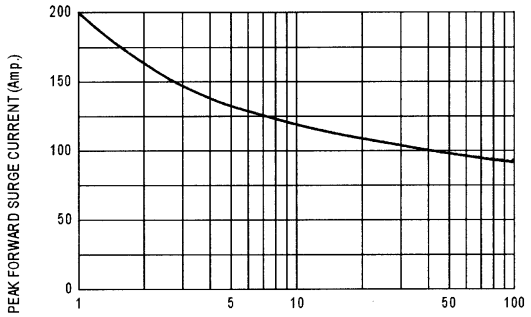
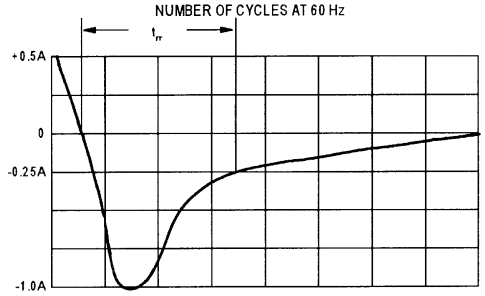


FIG-5 PEAK FORWARD SURGE CURRENT





Set time base for 50/100 ns/div

Fig-6 Reverse Recovery Time Characteristic and Test Circuit Diagram

Notice

MOSPEC reserves the rights to make changes of the content herein the document anytime without notification. MOSPEC or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies. Please refer to MOSPEC website for the last document.

MOSPEC disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially incurred.

Application shown on the herein document are examples of standard use and operation. Customers are responsible for comprehending suitable use in particular applications. MOSPEC makes no representation or warranty that such application will be suitable for the specified use without further testing or modification.

The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by MOSPEC for any infringements of patents or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of MOSPEC or others.

These MOSPEC products are intended for usage in general electronic equipment. Please make sure to consult with MOSPEC before you use these MOSPEC products in equipment which require specialized quality and/or reliability, and in equipment which could have major impact to the welfare of human life (atomic energy control, aeronautics , traffic control, combustion control, safety devices etc.)