

Switchmode 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

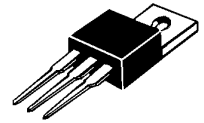
Features

- * High Surge Capacity
- * Low Power Loss, High efficiency
- * Glass Passivated chip junctions
- * 175 °C 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*



**ULTRA FAST
RECTIFIERS**

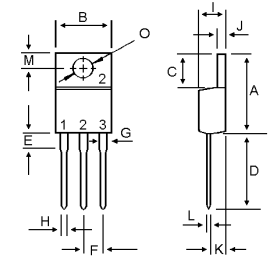
**16 AMPERES
300-600 VOLTS**



TO-220AB

MAXIMUM RATINGS

Characteristic	Symbol	U16C				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 Per Total Device	$I_{F(AV)}$	8.0 16				A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfwave, single phase, 60Hz)	I_{FSM}	125				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	2.41	2.67
G	1.10	1.67
H	0.69	1.01
I	3.21	4.98
J	1.14	1.40
K	2.20	3.30
L	0.28	0.61
M	2.48	3.00
O	3.50	4.00

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	U16C				Unit
		30	40	50	60	
Maximum Instantaneous Forward Voltage ($I_F = 8.0$ Amp $T_C = 25^\circ C$) ($I_F = 8.0$ Amp $T_C = 100^\circ C$)	V_F	1.30 1.12		1.50 1.34		V
Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_C = 25^\circ C$) (Rated DC Voltage, $T_C = 125^\circ C$)	I_R		10 300			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	$R_{\theta j-c}$		3.5			°C/w
Typical Thermal Resistance junction to ambient	$R_{\theta j-A}$		65			k/w
Typical Junction Capacitance (Reverse Voltage of 4 volts & $f = 1$ MHz)	C_P	85		70		pF

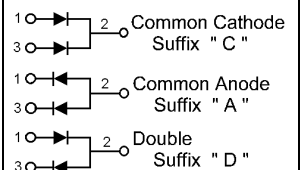


FIG-1 TYPICAL FORWARD CHARACTERISTICS

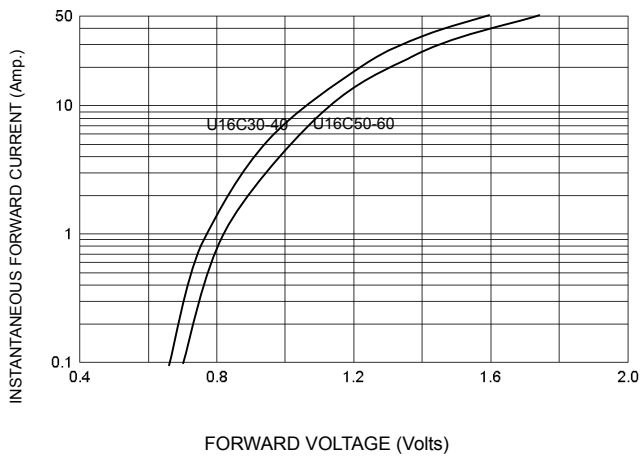


FIG-3 FORWARD CURRENT DERATING CURVE

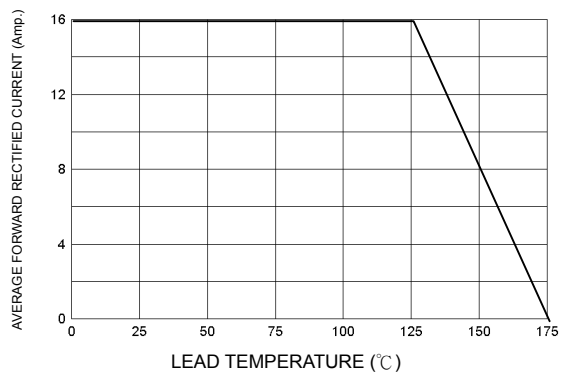


FIG-2 TYPICAL REVERSE CHARACTERISTICS

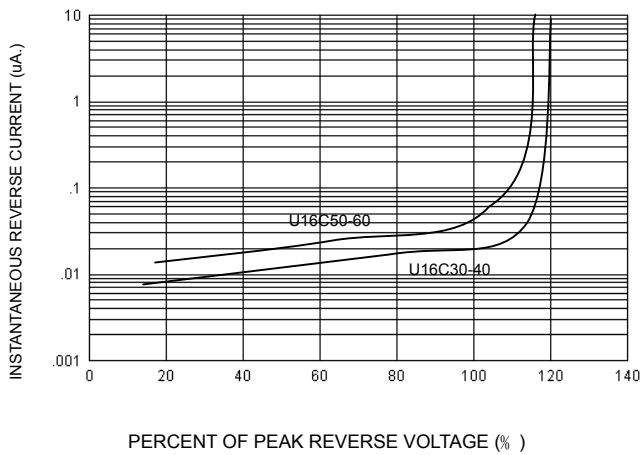


FIG-4 TYPICAL JUNCTION CAPACITANCE

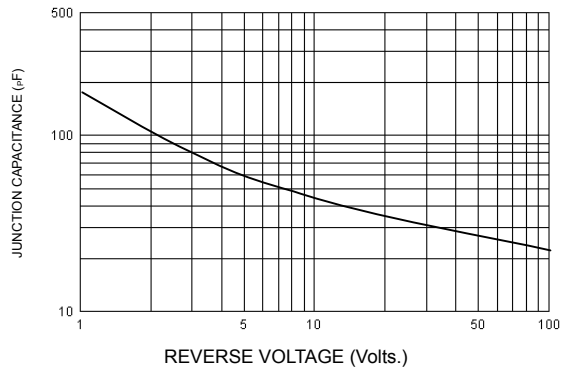
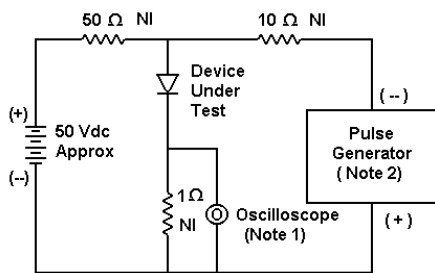
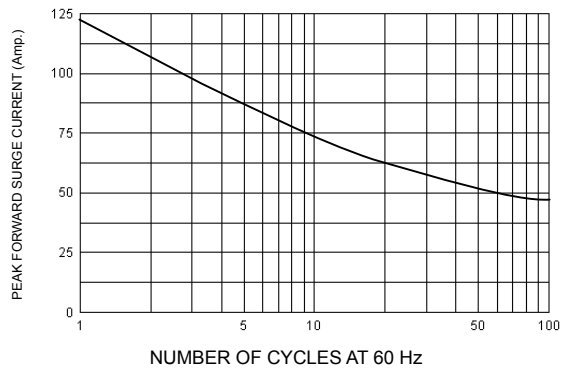
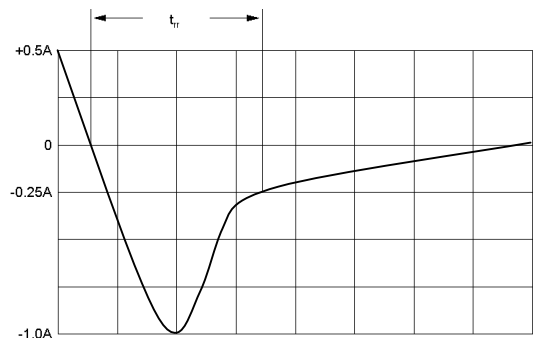


FIG-5 PEAK FORWARD SURGE CURRENT



- 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-6 Reverse Recovery Time Characteristic and Test Circuit Diagram

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