MOSPEC

U16C40C

Switch mode
Ultra-fast Power Rectifiers

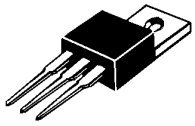
Designed for use in switching power supplies, inverters and as free-wheeling diodes. These state-of-the-art devices have the following

Features

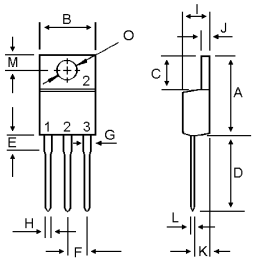
- ∗High Surge Capacity
- ∗Low Power Loss, High efficiency
- ∗150℃ Operating Junction Temperature
- ∗Low Stored Charge Majority Carrier Conduction
- ∗Low Forward Voltage , High Current Capability
- ∗High-Switching Speed 50 Nanosecond recovery Time
- ∗Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-O
- ∗Pb free
- ∗In compliance with EU RoHs directives

ULTRA FAST RECTIFIERS

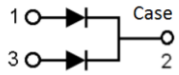
16 AMPERES
400 VOLTS



TO-220AB



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	4.22	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



MAXIMUM RATINGS

Characteristic	Symbol	U16C40C	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 (per diode) Total Device (Rated V_R)	$I_{F(AV)}$	8 16	A
Peak Repetitive Forward Current (Rate V_R, Square Wave, 20kHz)	I_{FM}	16	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 +150	℃

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Maximum Instantaneous Forward Voltage (I_F =8 Amp T_C = 25℃) (I_F =8 Amp T_C =125℃)	V_F	--- ---	1.16 0.97	1.40 ---	V
Maximum Instantaneous Reverse Current (Rated DC Voltage, T_C = 25℃) (Rated DC Voltage, T_C = 125℃)	I_R	--- ---	0.02 7.5	10 ---	uA
Reverse Recovery Time (I_F = 0.5 A, I_R =1.0 , I_{rr} =0.25 A)	T_{rr}	---	28	35	ns

FIG-1 TYPICAL FORWARD CHARACTERISTICS

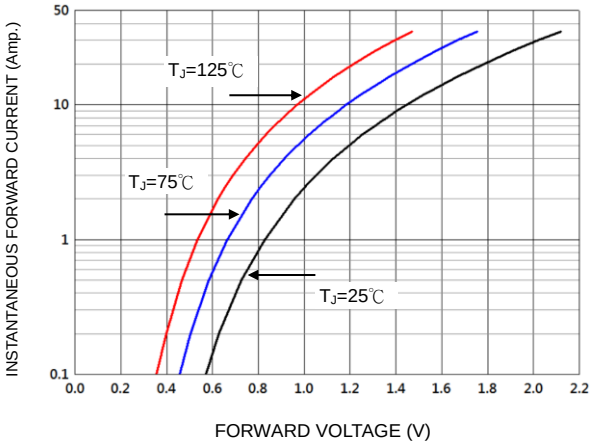


FIG-3 FORWARD CURRENT DERATING CURVE

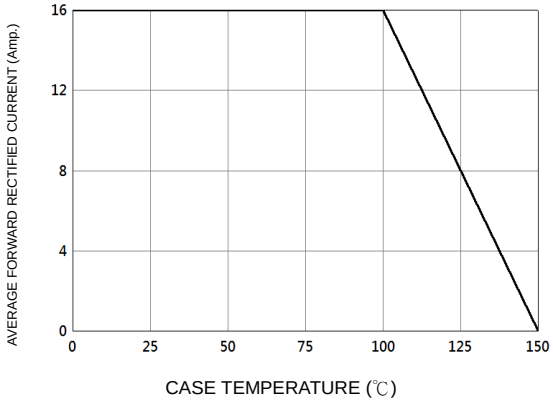


FIG-2 TYPICAL REVERSE CHARACTERISTICS

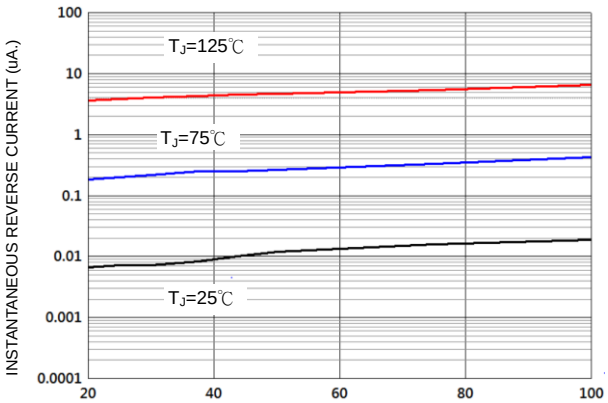
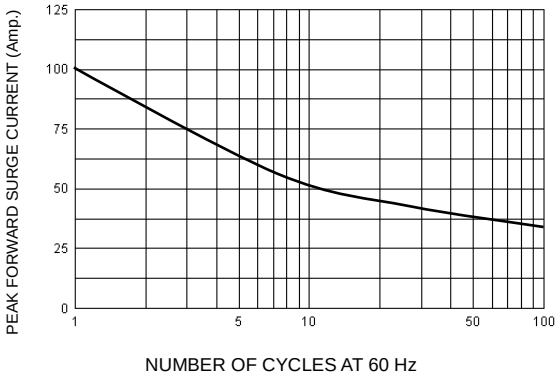
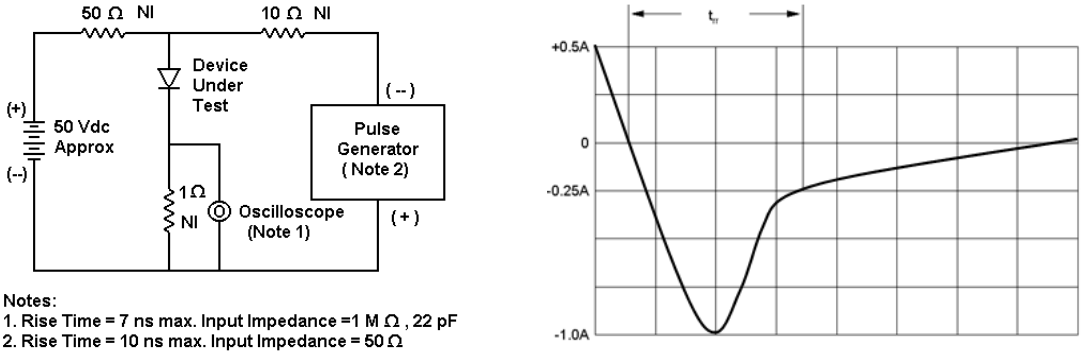


FIG-4PEAK FORWARD SURGE CURRENT





Set time base for 10/20 ns/cm

FIG-5 Reverse Recovery Time Characteristic and Test Circuit Diagram