

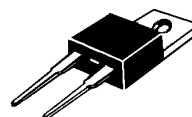
Ultra Fast Recovery Rectifier Diodes

-- 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
- * 150 °C Operating Junction Temperature
- * Low Stored Charge Majority Carrier Conduction
- * Low Forward Voltage, High Current Capability
- * High-Switching Speed 35 Nanosecong Recovery Time
- * Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-O

**ULTRA FAST
RECTIFIERS**

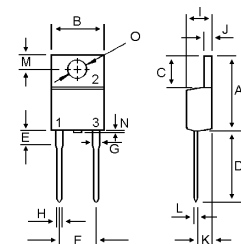
**5 AMPERES
50-200 VOLTS**



TO-220A

MAXIMUM RATINGS

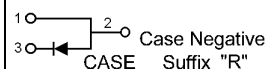
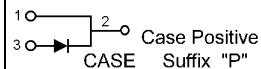
Characteristic	Symbol	U05A05	U05A10	U05A15	U05A20	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	50	100	150	200	V
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	105	140	V
Average Rectifier Forward Current Total Device (Rated V_R), $T_C=100^\circ\text{C}$	$I_{F(AV)}$	5.0				A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfware, single phase, 60Hz)	I_{FSM}	100				A
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-65 to +150				°C



DIM	MILLIMETERS	
	MIN	MAX
A	14.68	15.32
B	9.78	10.42
C	5.02	6.52
D	13.06	14.62
E	3.57	4.07
F	4.84	5.32
G	1.12	1.36
H	0.72	0.96
I	4.22	4.98
J	1.14	1.38
K	2.20	2.98
L	0.33	0.55
M	2.48	2.98
N	---	1.00
O	3.70	3.90

ELECTRIAL CHARACTERISTICS

Characteristic	Symbol	U05A05	U05A10	U05A15	U05A20	Unit
Maximum Instantaneous Forward Voltage ($I_F=5.0$ Amp $T_C=25^\circ\text{C}$) ($I_F=5.0$ Amp $T_C=125^\circ\text{C}$)	V_F		0.975 0.840			V
Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_C=25^\circ\text{C}$) (Rated DC Voltage, $T_C=125^\circ\text{C}$)	I_R		5.0 200			uA
Reverse Recovery Time ($I_F=0.5$ A, $I_R=1.0$, $I_{tr}=0.25$ A)	T_{rr}		35			ns
Typical Junction Capacitance (Reverse Voltage of 4 volts & f=1 MHz)	C_P		55			pF



U05A05 Thru U05A20

FIG-1 TYPICAL FORWARD CHARACTERISTICS

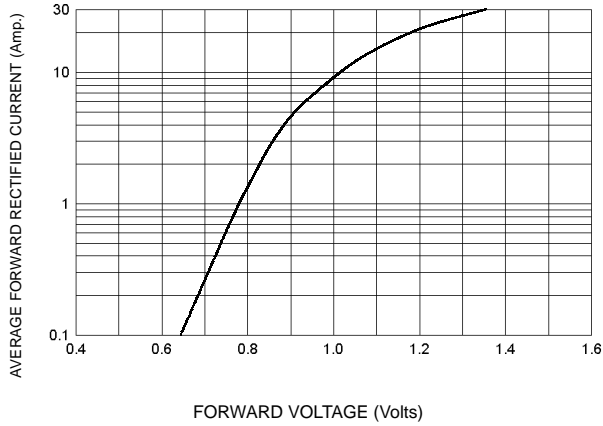


FIG-3 FORWARD CURRENT DERATING CURVE

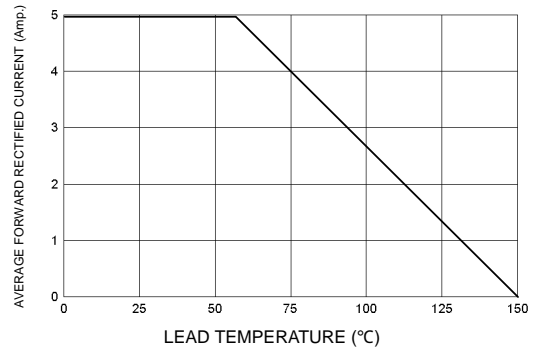


FIG-2 TYPICAL REVERSE CHARACTERISTICS

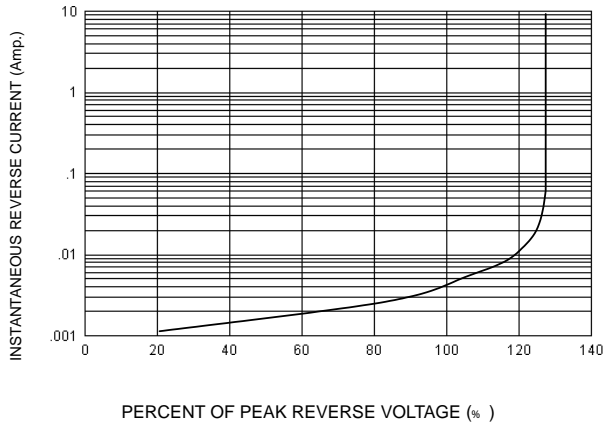


FIG-4 TYPICAL JUNCTION CAPACITANCE

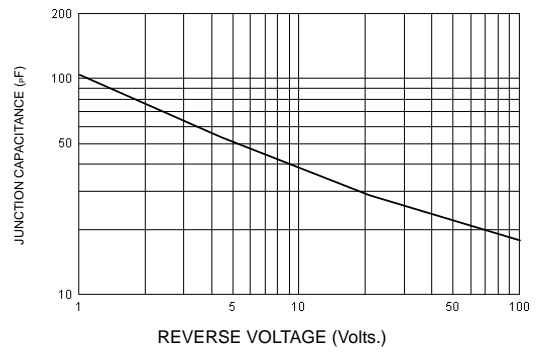
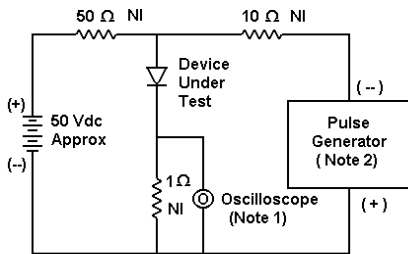
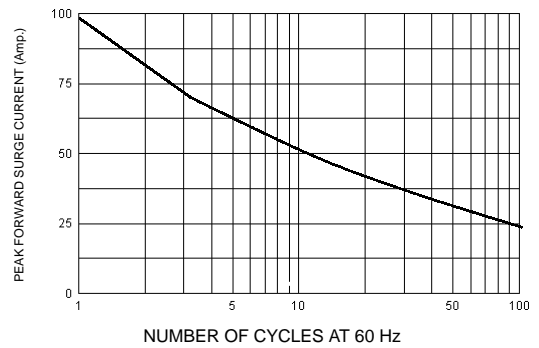
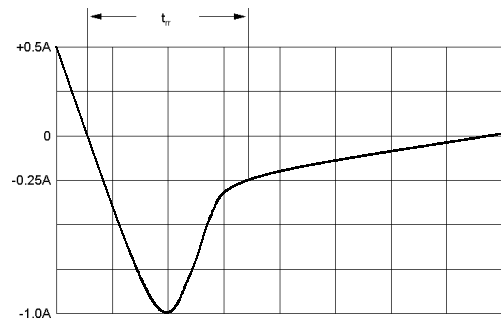


FIG-5 PEAK FORWARD SURGE CURRENT



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



Set time base for 10/20 ns/cm

FIG-6 Reverse Recovery Time Characteristic and Test Circuit Diagram