

**Surface Mount
Ultrafast Power Rectifiers**

Ideally suited for high voltage, high frequency rectification, or as free wheeling and protection diodes in surface mount applications where compact size and weight are critical to the system.

- * Low Power Loss, High efficiency
- * Glass Passivated chips junction
- * 150 °C Operating Junction Temperature
- * Low Stored Charge Majority Carrier Conduction
- * Low Forward Voltage Drop , High Current Capability
- * High-Switching Speed 50 & 75 Nanosecond Recovery Time
- * Small Compact Surface Mountable Package with J-Bend Lead
- * Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-O

MAXIMUM RATINGS

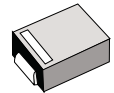
Characteristic	Symbol	MU57	MU58	MU59	MU510	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	500	600	800	1000	V
RMS Reverse Voltage	$V_{R(RMS)}$	350	420	560	700	V
Average Rectifier Forward Current	I_o	5.0				A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfwave, single phase, 60Hz)	I_{FSM}	75				A
Operating and Storage Junction Temperature Range	T_J, T_{stg}	- 65 to + 150				°C

ELECTRICAL CHARACTERISTICS

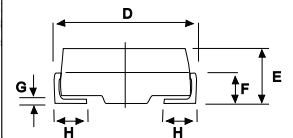
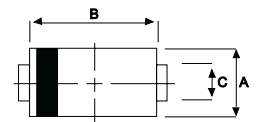
Characteristic	Symbol	MU57	MU58	MU59	MU510	Unit
Maximum Instantaneous Forward Voltage ($I_F=5.0$ Amp, $T_C = 25$ °C)	V_F	1.50		1.75		V
Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_C = 25$ °C) (Rated DC Voltage, $T_C = 125$ °C)	I_R	5.0 70				uA
Reverse Recovery Time ($I_F = 0.5$ A, $I_R = 1.0$, $I_{rr} = 0.25$ A)	T_{rr}	50		75		ns
Typical Junction Capacitance (Reverse Voltage of 4 volt & f=1 MHz)	C_p	30		25		pF

**ULTRA FAST
RECTIFIERS**

**5.0 AMPERES
500 -- 1000 VOLTS**



DO-214AA(SMB)



DIM	MILLIMETERS	
	MIN	MAX
A	3.30	3.90
B	4.20	4.60
C	1.80	2.20
D	4.90	5.60
E	1.90	2.50
F	---	1.30
G	---	0.22
H	0.85	1.45

CASE---
Transfer molded
plastic

POLARITY---
Cathode indicated
polarity band

MU57 Thru MU510

FIG-1 TYPICAL FORWARD CHARACTERISTICS

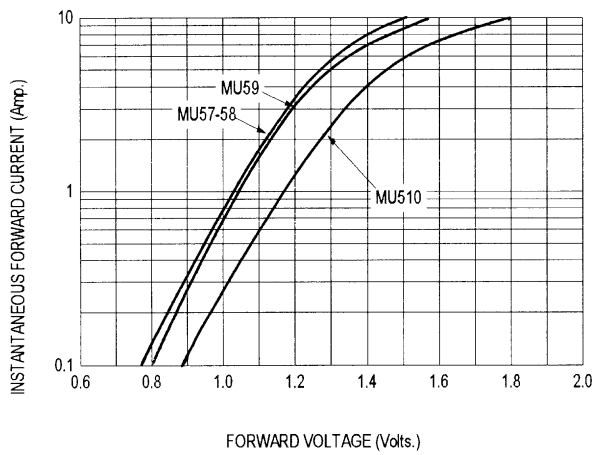


FIG-3 FORWARD CURRENT DERATING CURVE

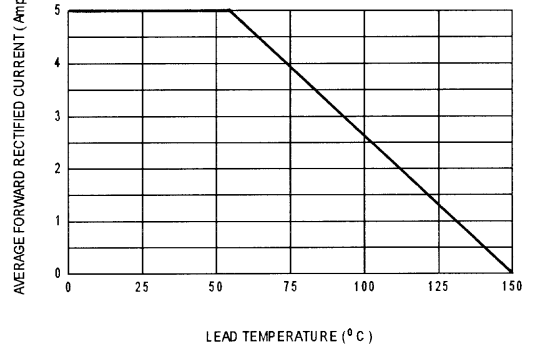


FIG-4 TYPICAL JUNCTION CAPACITANCE

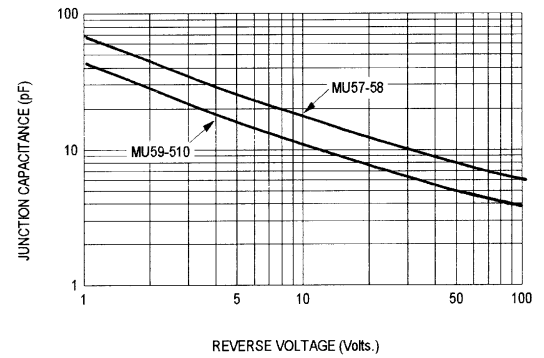


FIG-5 PEAK FORWARD SURGE CURRENT

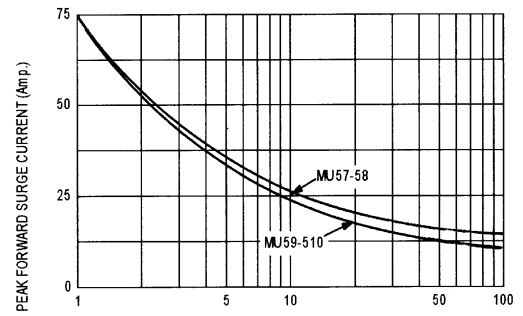
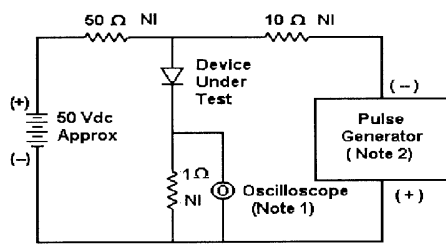
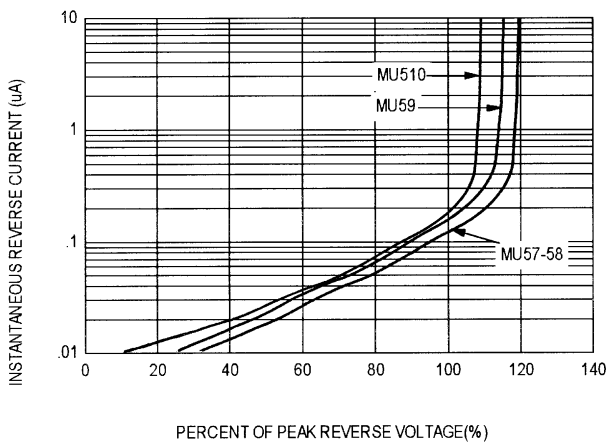
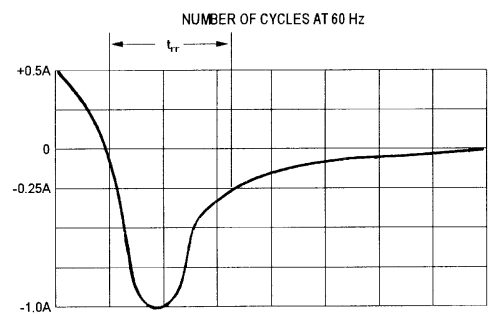


FIG-2 TYPICAL REVERSE CHARACTERISTICS



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



Set time base for 20 ns/div

Fig-6 Reverse Recovery Time Characteristic and Test Circuit Diagram