

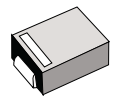
**Surface Mount
Ultrafast Power Rectifiers**

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 35 & 50 Nanosecond Recovery Time
- * Small Compact Surface Mountable Package with J-Bend Lead
- * Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-0

**ULTRA FAST
RECTIFIERS**

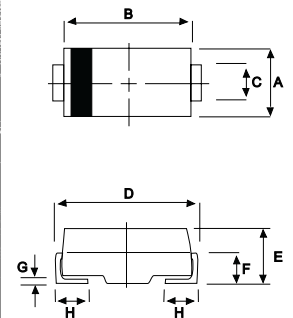
**5.0 AMPERES
50 -- 400 VOLTS**



DO-214AA(SMB)

MAXIMUM RATINGS

Characteristic	Symbol	MU						Unit
		51	52	53	54	55	56	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	50	100	150	200	300	400	V
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	105	140	210	280	V
Average Rectifier Forward Current	I_o	5.0						A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfware,single phase,60Hz)	I_{FSM}	100				75		A
Operating and Storage Junction Temperature Range	T_J , T_{stg}	- 65 to + 150						°C



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

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	MU						Unit
		51	52	53	54	55	56	
Maximum Instantaneous Forward Voltage (I _F =5.0 Amp, T _C = 25 °C)	V _F	1.00				1.30		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}	35				50		ns
Typical Junction Capacitance (Reverse Voltage of 4 volts & f=1 MHz)	C _P	55				45		pF

CASE---
Transfer molded plastic

POLARITY---
Cathode indicated polarity band

MU51 Thru MU56

FIG-1 TYPICAL FORWARD CHARACTERISTICS

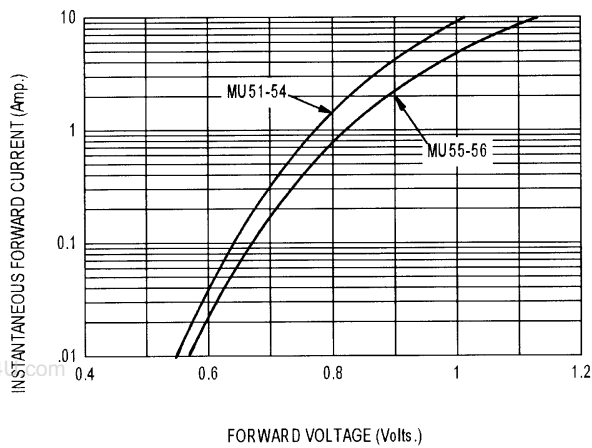


FIG-2 TYPICAL REVERSE CHARACTERISTICS

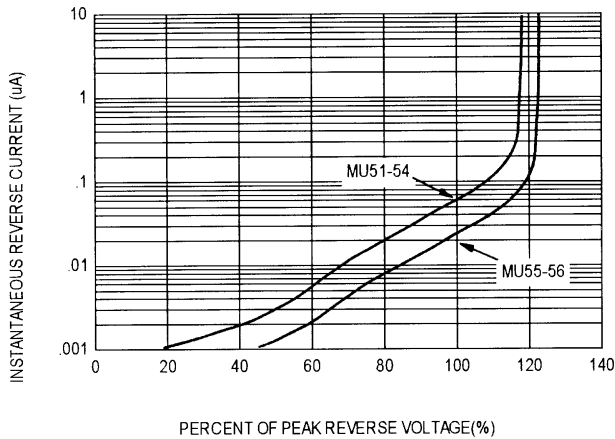


FIG-3 FORWARD CURRENT DERATING CURVE

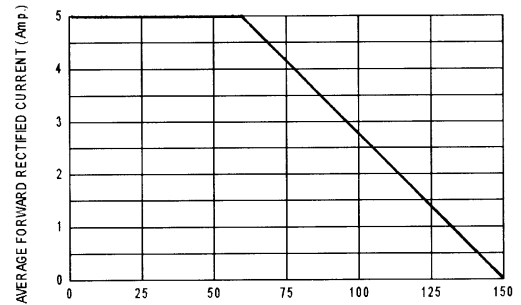


FIG-4 TYPICAL JUNCTION CAPACITANCE

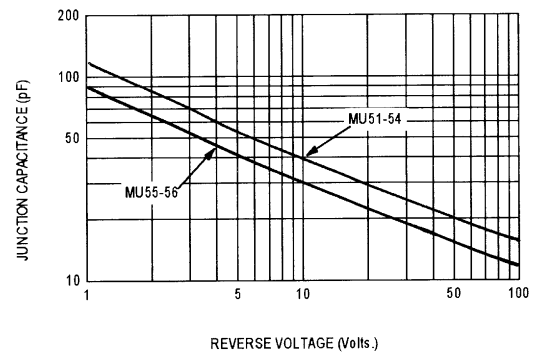
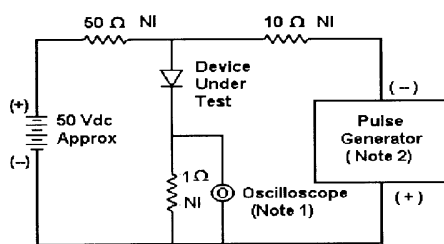
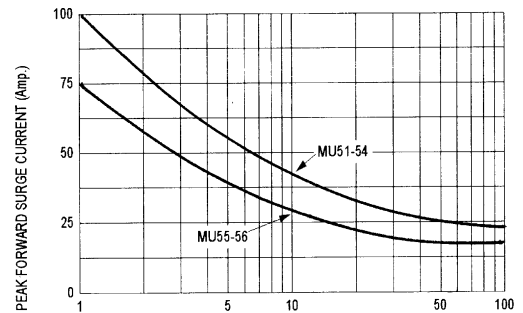
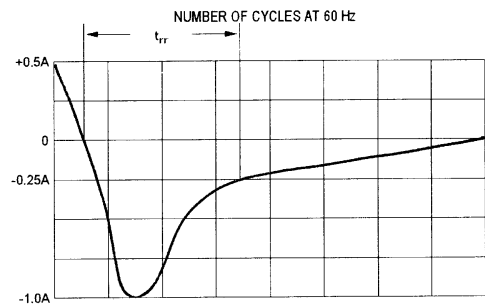


FIG-5 PEAK FORWARD SURGE CURRENT



- 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/div

Fig-6 Reverse Recovery Time Characteristic and Test Circuit Diagram