

## Switchmode Surface Mount Ultrafast Power Rectifier

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.

### Features

- \* Low Power Loss, High efficiency
- \* 150°C Operating Junction Temperature
- \* Low Stored Charge Majority Carrier Conduction
- \* Low Forward Voltage Drop , High Current Capability
- \* High-Switching Recovery Time
- \* Small Compact Surface Mountable Package with J-Bend Lead
- \* Plastic Material used Carries Underwriters Laboratory Flammability Classification 94V-0
- \* *Pb free*
- \* *In compliance with EU RoHs directives*
- \* *Plating pb free is indicated by box*

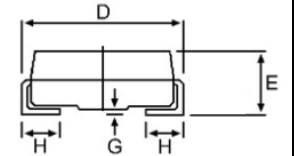
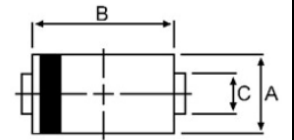


**ULTRAFAST  
RECTIFIERS**

**4 AMPERES  
600 VOLTS**



**DO-214AB(SMC)**



DIM	MILLIMETERS	
	MIN	MAX
A	5.59	6.22
B	6.60	7.11
C	2.90	3.20
D	7.75	8.13
E	2.06	2.62
G	---	0.21
H	0.76	1.52

### MAXIMUM RATINGS

Characteristic	Symbol	MU48C	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	600	V
RMS Reverse Voltage	$V_{R(RMS)}$	420	V
Average Rectifier Forward Current	$I_O$	4	A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfwave, single phase, 60Hz)	$I_{FSM}$	80	A
Operating and Storage Junction Temperature Range	$T_J, T_{stg}$	-65 to +150	°C

### ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Maximum Instantaneous Forward Voltage ( $I_F=4.0$ Amp, $T_C = 25^\circ\text{C}$ ) ( $I_F=4.0$ Amp, $T_C = 125^\circ\text{C}$ )	$V_F$	---	1.20 1.05	1.5 ---	V
Maximum Instantaneous Reverse Current ( Rated DC Voltage, $T_C = 25^\circ\text{C}$ ) ( Rated DC Voltage, $T_C = 125^\circ\text{C}$ )	$I_R$	---	0.1 10	5 ---	uA
Reverse Recovery Time ( $I_F = 0.5$ A, $I_R = 1.0$ , $I_{rr} = 0.25$ A )	$T_{rr}$	---	---	50	ns

CASE---  
Transfer molded plastic

OLARITY---  
Cathode indicated polarity band

FIG-1 TYPICAL FORWARD CHARACTERISTICS

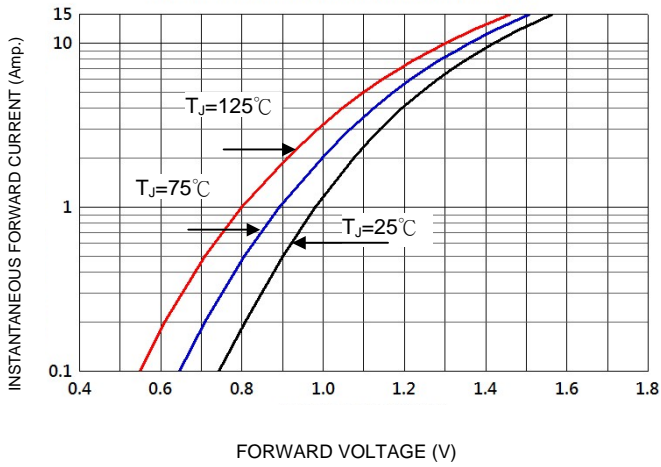


FIG-2 FORWARD CURRENT DERATING CURVE

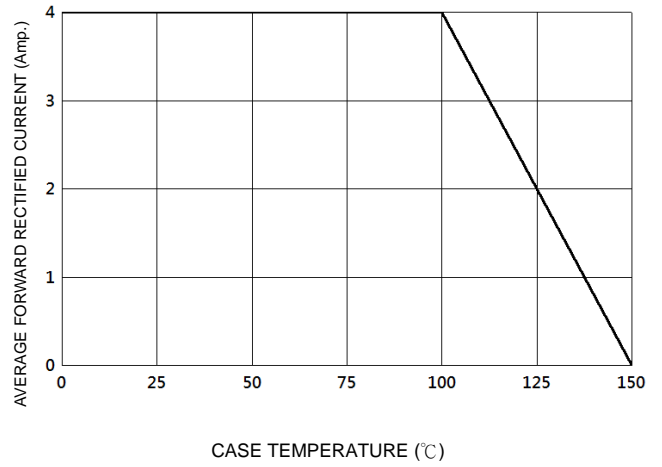


FIG-3 TYPICAL REVERSE CHARACTERISTICS

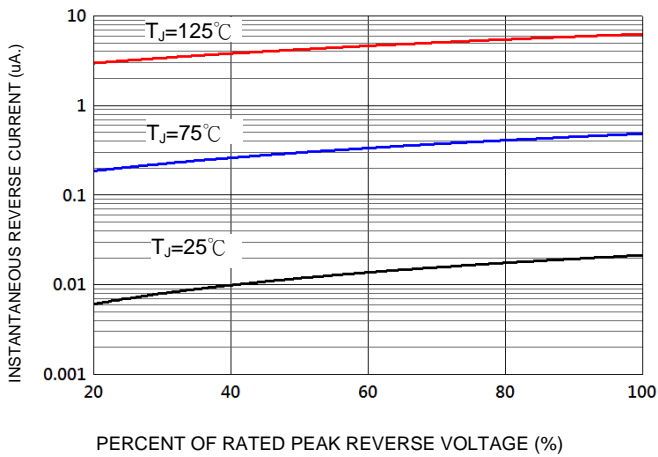
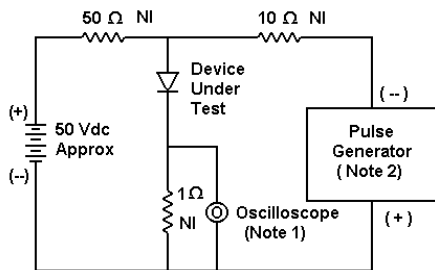
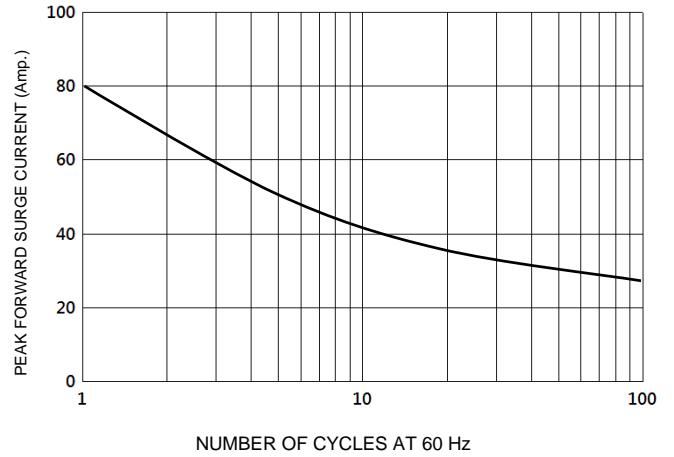
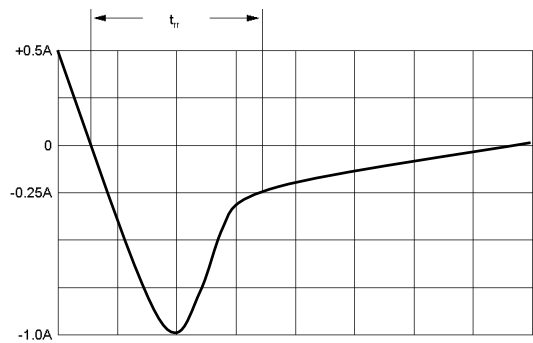


FIG-4 PEAK FORWARD SURGE CURRENT



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



Set time base for 10/20 ns/cm

FIG-5 Reverse Recovery Time Characteristic and Test Circuit Diagram

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