

## Surface Mount Ultra Fast Rectifiers

**(Pb)** Lead(Pb)-Free

### Features:

- \* For Surface Mount Application
- \* Glass Passivated Chip
- \* Low Reverse Leakage Current
- \* Low Forward Voltage Drop And High Current Capability
- \* Ultra Fast Switching For High Efficiency
- \* Plastic Material Has UL Flammability Classification 94V-0

### Mechanical Data

- \* Case : Molded Plastic
- \* Terminals: Solder Plated Terminal-Solderable per MIL-STD-202, Method 208
- \* Polarity :Indicated by cathode band
- \* Weight :0.003 Ounce ,0.093 grams

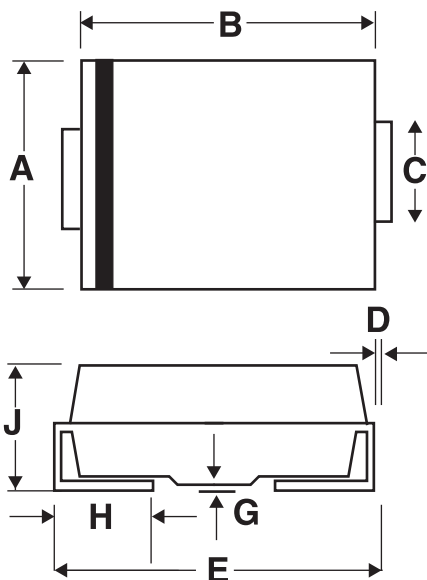
**REVERSE VOLTAGE**  
**50 TO 1000 VOLTS**  
**FORWARD CURRENT**  
**2.0 AMPERE**



**SMB(DO-214AA)**

## SMB Outline Dimension

Unit:mm



SMB		
Dim	Min	Max
<b>A</b>	3.30	3.94
<b>B</b>	4.06	4.80
<b>C</b>	1.96	2.21
<b>D</b>	0.15	0.31
<b>E</b>	5.00	5.59
<b>G</b>	0.10	0.20
<b>H</b>	0.76	1.52
<b>J</b>	2.00	2.62

## Maximum Ratings and Electrical Characteristics

Rating 25°C Ambient Temperature Unless Otherwise Specified.

Single Phase Half Wave, 60Hz , Resistive or Inductive Load.

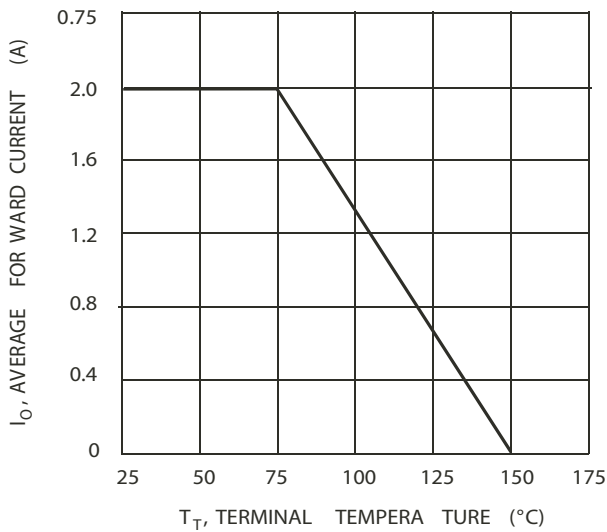
For Capacitive Load, Derate Current by 20%.

Characteristics	Symbol	US2A	US2B	US2D	US2G	US2J	US2K	US2M	Unit
Maximum Recurrent Peak Reverse Voltage	VRRM	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	VRMS	35	70	140	280	420	560	700	
Maximum DC Blocking Voltage	VDC	50	100	200	400	600	800	1000	
Maximum Average Forward Rectified Current @ $T_T=75^{\circ}\text{C}$	IF(AV)	2.0							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	IFSM	50							A
Maximum Instantaneous At 2.0A DC	VF	1.0		1.30	1.70				V
Maximum DC Reverse Current @ $T_A=25^{\circ}\text{C}$ At Rated DC Blocking Voltage @ $T_A=100^{\circ}\text{C}$	IR	5.0				350			uA
Maximum Reverse Recovery Time(Note1)	Trr	50			100			ns	
Typical Junction Capacitance (Note 2)	C <sub>J</sub>	25							P <sub>F</sub>
Typical Thermal Resistance (Note 3)	R <sub>θJT</sub>	25							°C/W
Operating Temperature Range	T <sub>J</sub>	-55 to+150							°C
Storage Temperature Range	TSTG	-55 to+150							°C

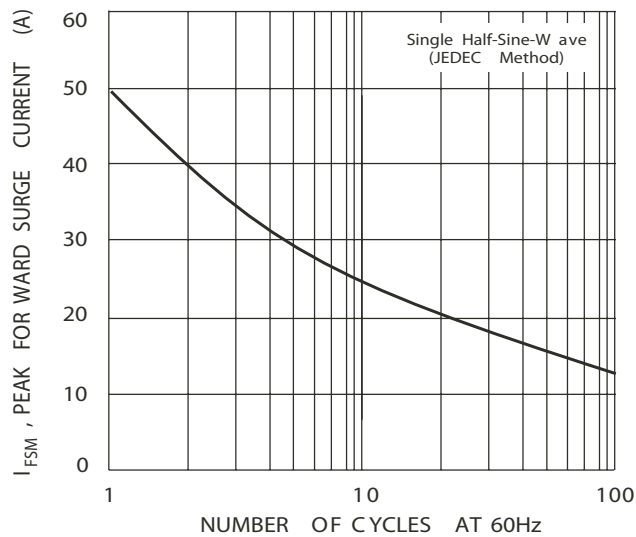
NOTES:1.Reverse Recovery Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{RR}=0.25\text{A}$ .

2.Measured at 1.0MHz applied reverse voltage of 4.0V DC.

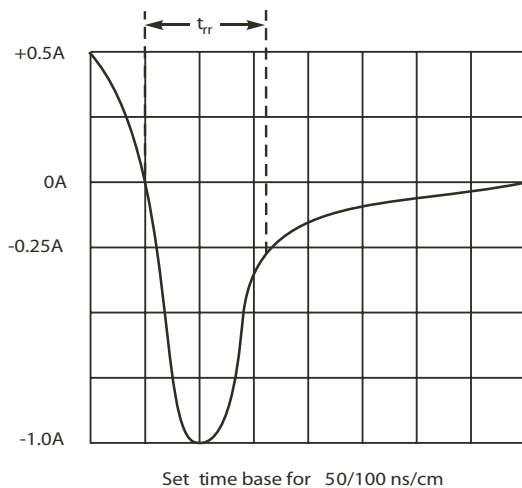
3.Unit Mounted on PC board with 5.0 mm<sup>2</sup>(0.03mm thick) land areas.



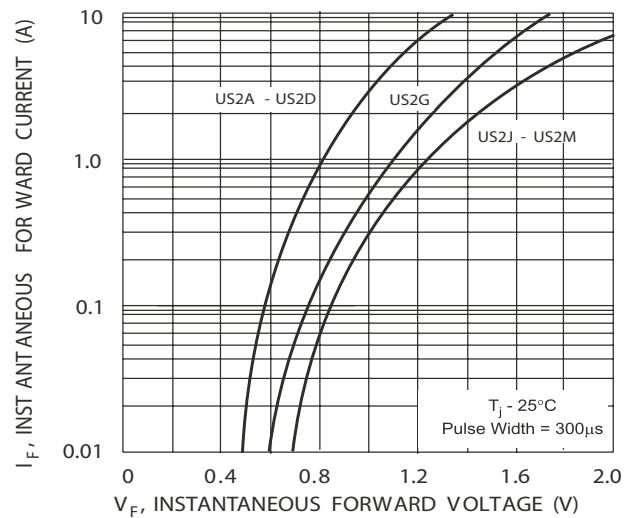
**FIG.1 Forward Current Deration Curve**



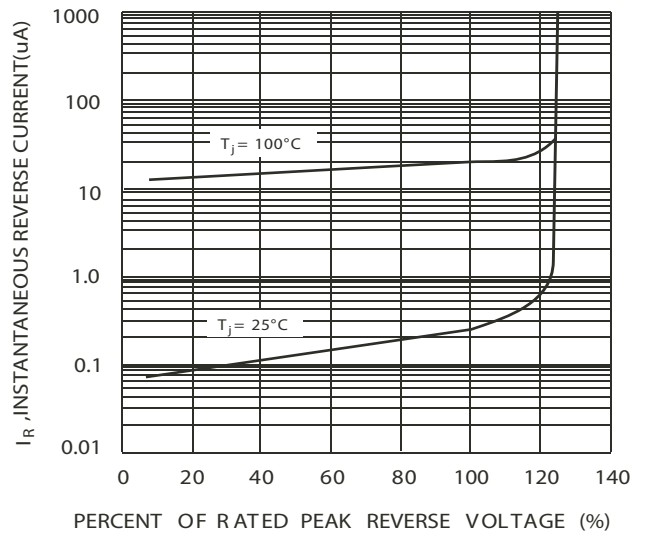
**FIG.3 Forward Surge Current Derating Curve**



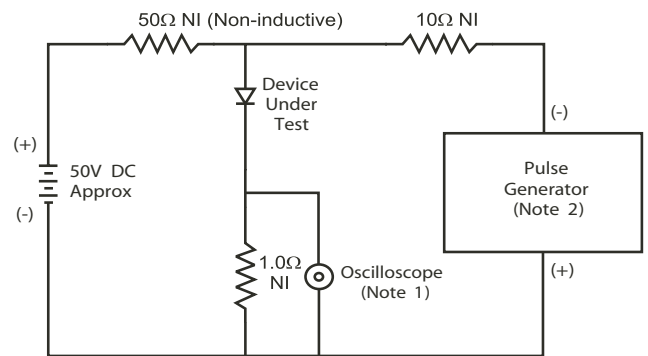
**FIG.5 Rverse Recover Time Characteristics and Test Circuit**



**FIG.2 Typical Forward Characteristics**



**FIG.4 Typical Reverse Characteristics**



- Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
  2. Rise Time = 10ns max. Input Impedance = 50Ω.