

## Surface Mount Ultra Fast Recovery 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
- \*Plastic Material Has UL Flammability Classification 94V-0

### Mechanical Data:

- \* Case: Molded Plastic, MINI-SMA(Similar to SOD-123F)
- \* Terminals: Solder Plated, Solderable per ML-STD-750 Method 2026
- \* Polarity: Indicated by Cathode Band
- \* Weight: 0.040 grams

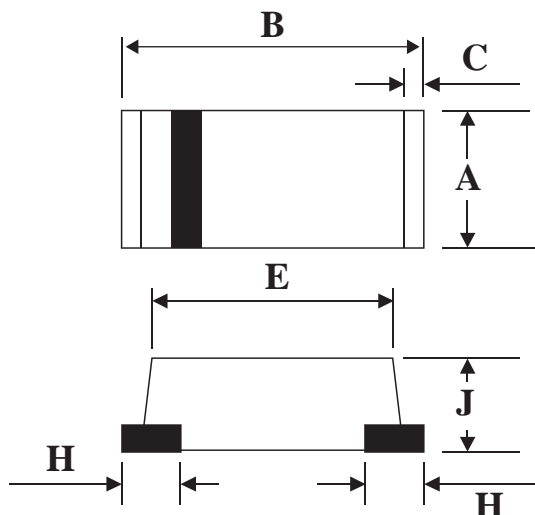
**REVERSE VOLTAGE  
50 TO 1000 VOLTS  
FORWARD CURRENT  
0.5 AMPERE**



**MINI-SMA  
(SOD-123F)**

## MINI-SMA Outline Dimension

unit:mm



MINI-SMA		
Dim	Min	Max
<b>A</b>	1.40	1.80
<b>B</b>	3.70	4.10
<b>C</b>	-	0.30(TYP)
<b>E</b>	2.80	3.20
<b>H</b>	-	0.90(TYP)
<b>J</b>	1.40	1.60

## 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	US 05AM	US 05BM	US 05DM	US 05GM	US 05JM	US 05KM	US 05MM	Unit	
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V	
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V	
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	V	
Maximum Average Forward Rectified Current @T <sub>A</sub> =50°C	I <sub>F(AV)</sub>	0.5							A	
Peak Forward Surge Current, 8.3 ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	I <sub>FSM</sub>	30							A	
Maximum Instantaneous At 0.5A DC	V <sub>F</sub>	1.0		1.3		1.7		V		
Maximum DC Reverse Current @T <sub>A</sub> =25°C At Rated DC Blocking Voltage @T <sub>A</sub> =100°C	I <sub>R</sub>	5.0				150				uA
Maximum Reverse Recovery Time	T <sub>RR</sub>	50			75			ns		
Typical Junction Capacitance (Note 1)	C <sub>J</sub>	20(TYP)							PF	
Typical Thermal Resistance (Note 2)	R <sub>θJA</sub>	42(TYP)							°C/W	
Operating Temperature Range	T <sub>J</sub>	-55 to+150							°C	
Storage Temperature Range	T <sub>STG</sub>	-55 to+150							°C	

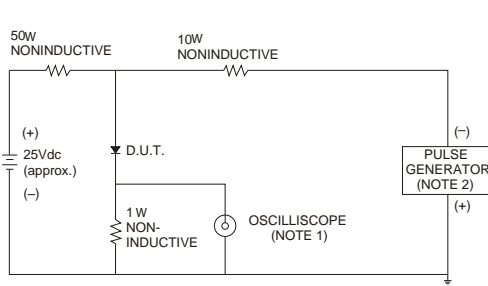
NOTES: 1.Measured at 1.0MHz applied reverse voltage of 4.0V DC.

2.Thermal Resistance Junction to Ambient.

## Device Marking

Item	Marking	Item	Marking
US05AM	U1	US05JM	U5
US05BM	U2	US05KM	U6
US05DM	U3	US05MM	U7
US05GM	U4		

## RATING AND CHARACTERISTIC CURVES



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm.22pF.  
2. Rise Time= 10ns max., Source Impedance= 50 ohms.

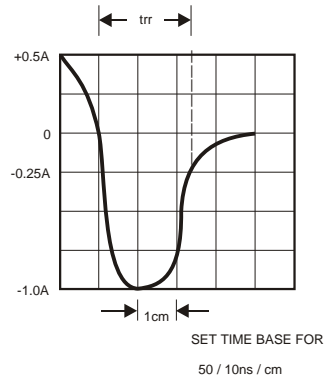


FIG.1- Test Circuit Diagram and Reverse Recovery Time Characteristics

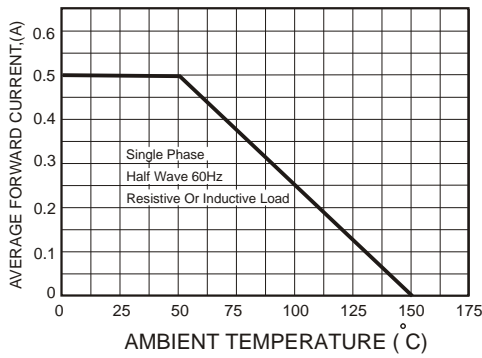


FIG.2-Typical Forward Current Derating Curve

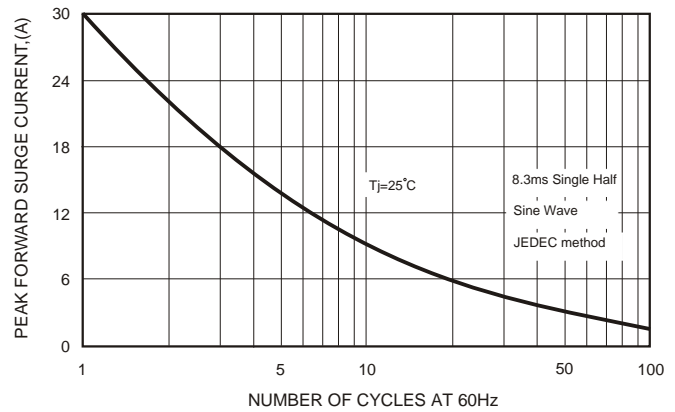


FIG.3-Maximum Non-repetitive Forward Surge Current

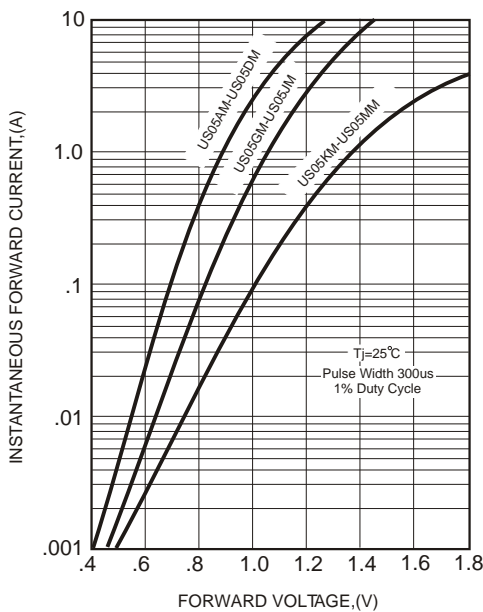


FIG.4-Typical Forward Characteristics

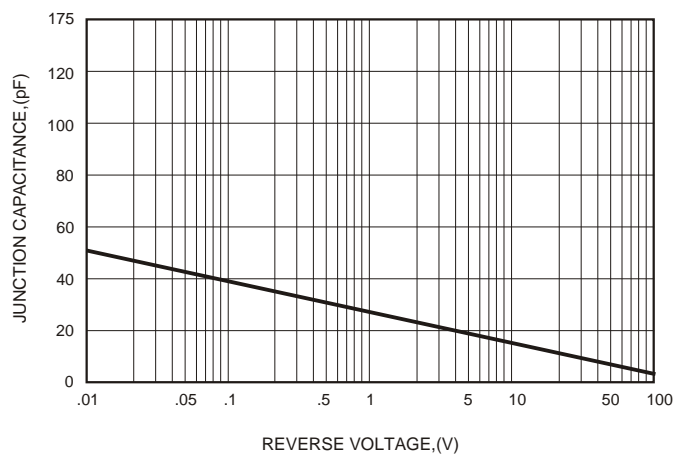


FIG.5-Typical Junction Capacitance