

## 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:

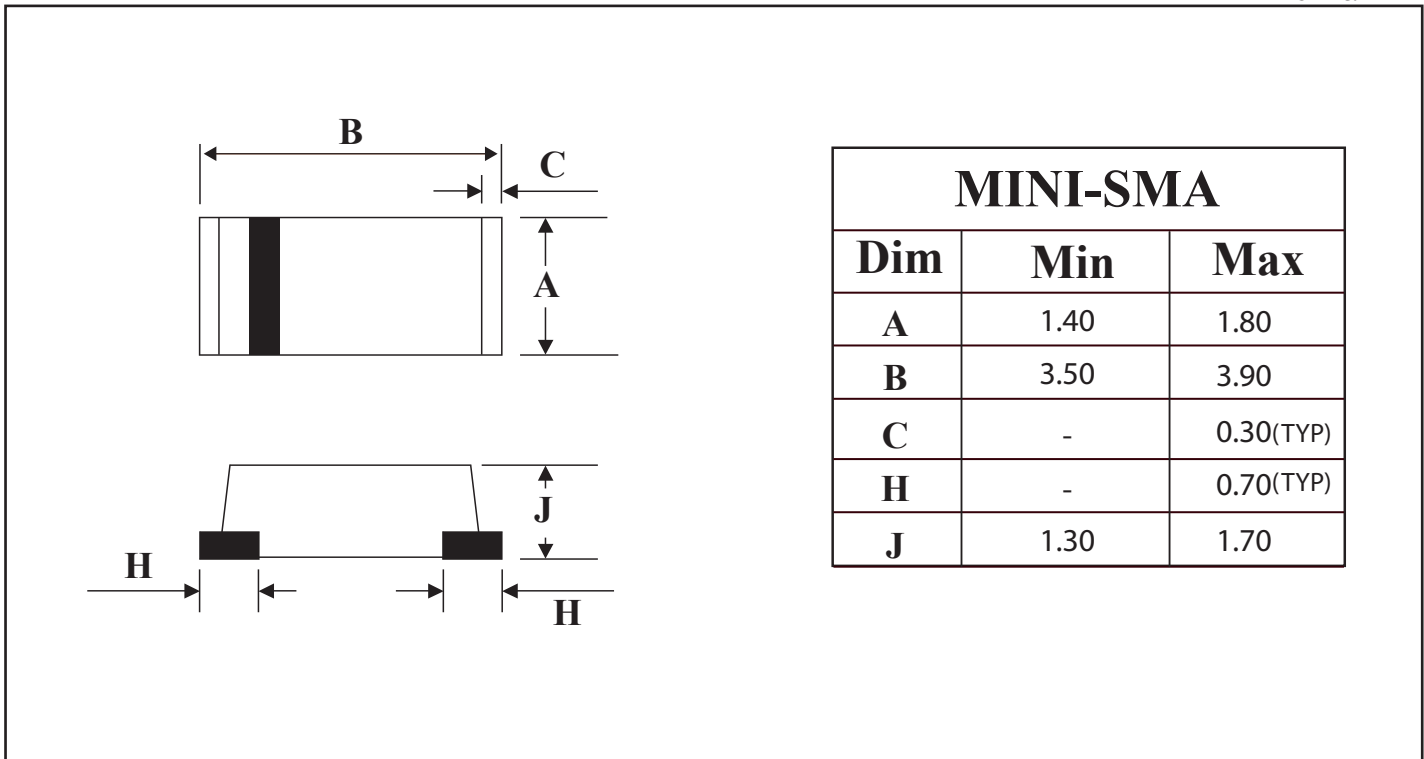
- \* Case: Molded Plastic, MINI-SMA(Similar to SOD-123F)
- \* Terminals: Solder Plated, Solderable per ML-STD-750 Method 2026
- \* Polarity: Indicated by Cathode Band
- \* Weight: 0.040 grams

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



## MINI-SMA Outline Dimension

unit:mm



## 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	

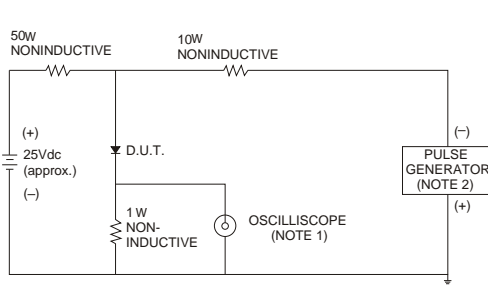
NOTES: 1.Measured at 1.0MHz applied reverse voltage of 4.0V DC.

2.Thermal Resistance Junction to Ambient.

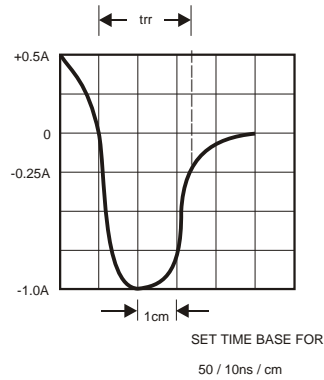
## Device Marking

Item	Marking	Item	Marking
US05AM	F1	US05JM	F5
US05BM	F2	US05KM	F6
US05DM	F3	US05MM	F7
US05GM	F4		

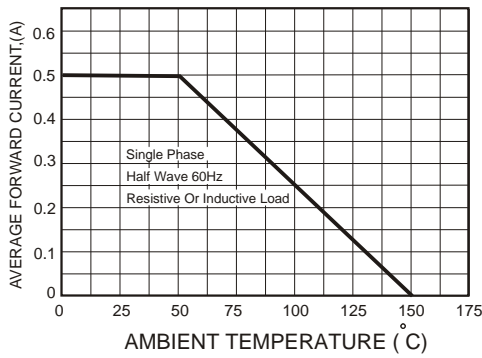
## RATING AND CHARACTERISTIC CURVES



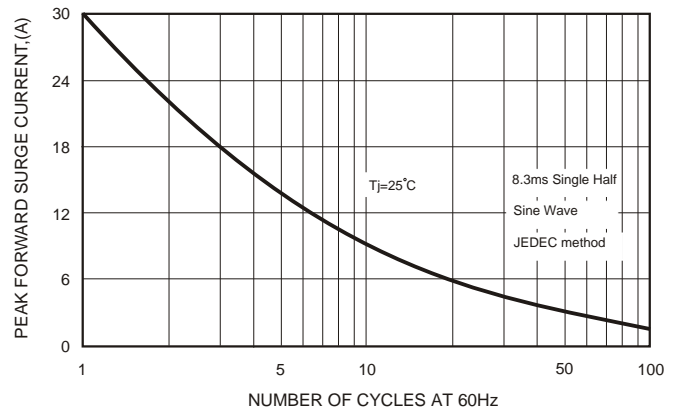
NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm.22pF.  
2. Rise Time= 10ns max., Source Impedance= 50 ohms.



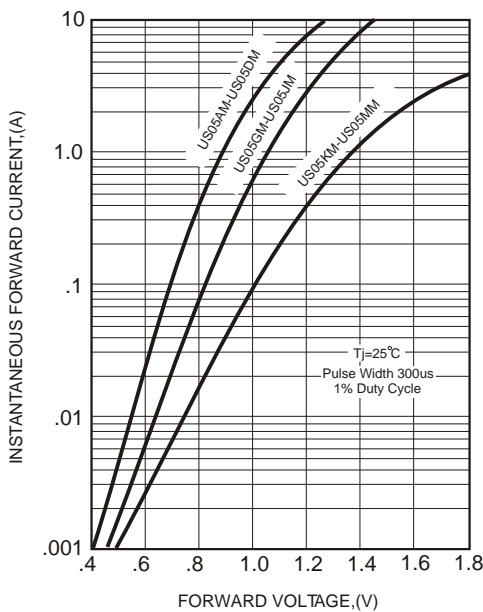
**FIG.1- Test Circuit Diagram and Reverse Recovery Time Characteristics**



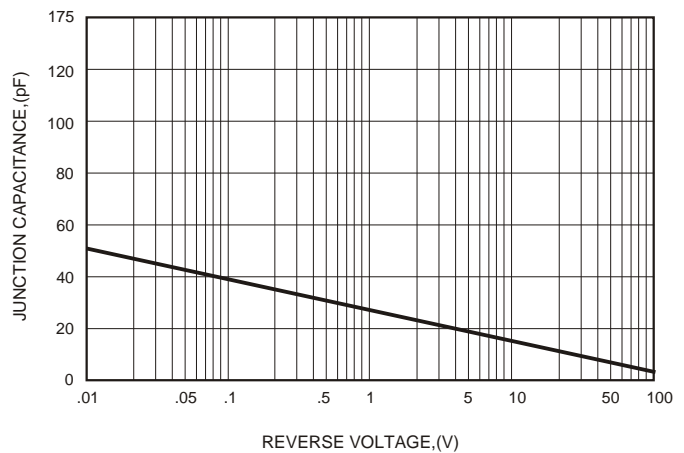
**FIG.2-Typical Forward Current Derating Curve**



**FIG.3-Maximum Non-repetitive Forward Surge Current**



**FIG.4-Typical Forward Characteristics**



**FIG.5-Typical Junction Capacitance**