

### Surface Mount Super Fast Recovery Rectifiers

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

#### Features:

- \* Plastic package has Underwriters Laboratory Flammability. Classification 94V-O Utilizing Flame Retardant Epoxy Molding Compound.
- \* For surface mounted applications.
- \* Exceeds environmental standards of MIL-S-19500 / 228.
- \* Low leakage current.

#### Mechanical Data:

- \* Case : Molded plastic
- \* Terminals : Solder plated, solderable per MIL-STD-750, Method 2026.
- \* Polarity : Indicated by cathode band.
- \* Mounting Position : Any.
- \* Weight : 0.0015 ounce, 0.05 gram.

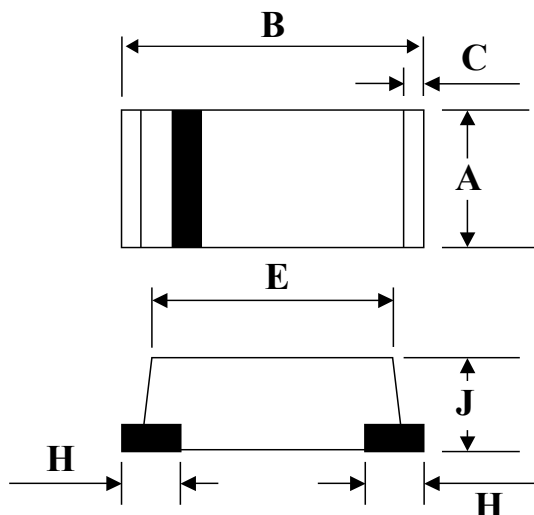
**SCHOTTKY BARRIER  
RECTIFIERS  
1.0 AMPERES  
50-600 VOLTS**



**SMA-1**

### SMA-1 Outline Dimension

unit:mm



Dimensions in inches

SMA-1		
Dim	Min	Max
<b>A</b>	2.40	2.80
<b>B</b>	4.40	4.80
<b>C</b>	0.30	0.30
<b>E</b>	3.80	4.20
<b>H</b>	1.00	1.00
<b>J</b>	1.50	1.70

## Maximum Ratings and Electrical Characteristics

Rating 25°C Ambient Temperature Unless Otherwise Specified.

Single Phase HalfWave, 60Hz , Resistive or Inductive Load.

For Capacitive Load, Derate Current by 20%.

Characteristics	Symbol	SFM11	SFM12	SFM13	SFM14	SFM15	SFM16	SFM17	SFM18	Unit
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	150	200	300	400	500	600	V
Maximum RMS Voltage	$V_{RMS}$	35	70	70	140	210	280	350	420	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	100	200	300	400	500	600	V
Maximum Average Forward Rectified Current $T_A = 50^\circ\text{C}$	$I_{F(AV)}$	1.0								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC)	$I_{FSM}$	30								A
Maximum Instantaneous At 1.0A DC	$V_F$	0.95			1.25		1.7			V
Maximum DC Reverse Current @ $T_a = 25^\circ\text{C}$ At Rated DC Blocking Voltage @ $T_a = 100^\circ\text{C}$	$I_R$					5.0				$\mu\text{A}$
						100				
Max Reverse Recovery Time	$T_{rr}$	35						50		nS
Typical Junction Capacitance	$C_J$	10								pF
Typical thermal resistance	$R_{\theta JA}$	32								$^\circ\text{C}/\text{W}$
Operating Temperature Range	$T_J$	+150								$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +150								$^\circ\text{C}$

FIG.1-TYPICAL FORWARD CHARACTERISTICS

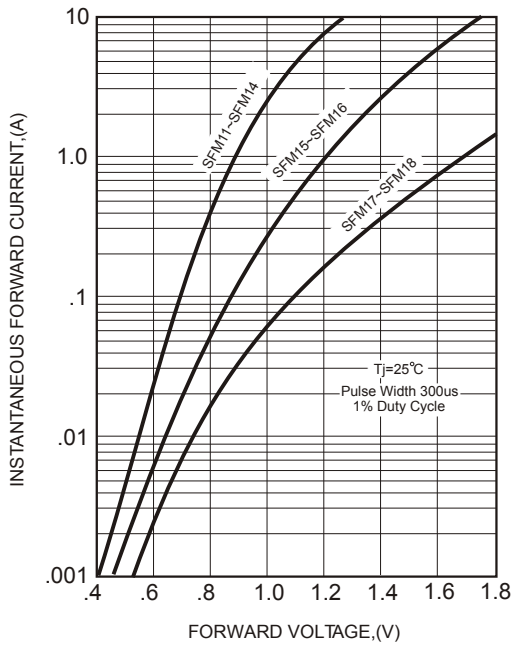


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

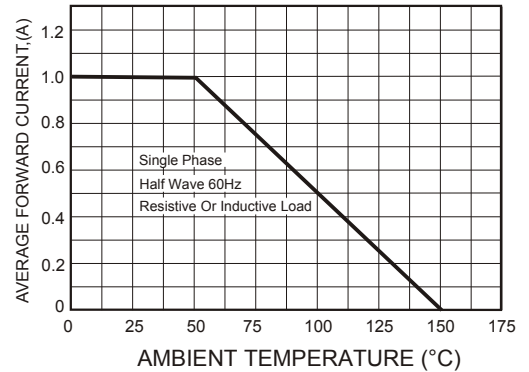
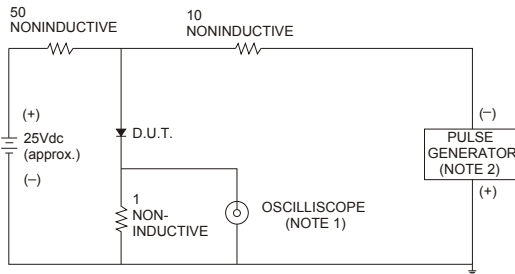


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



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

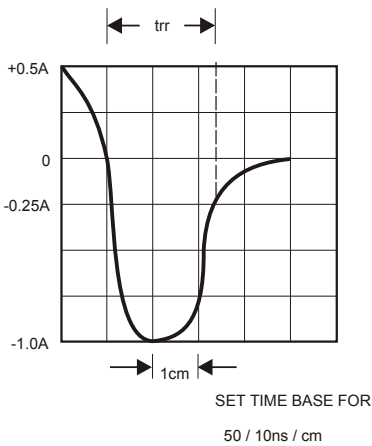


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

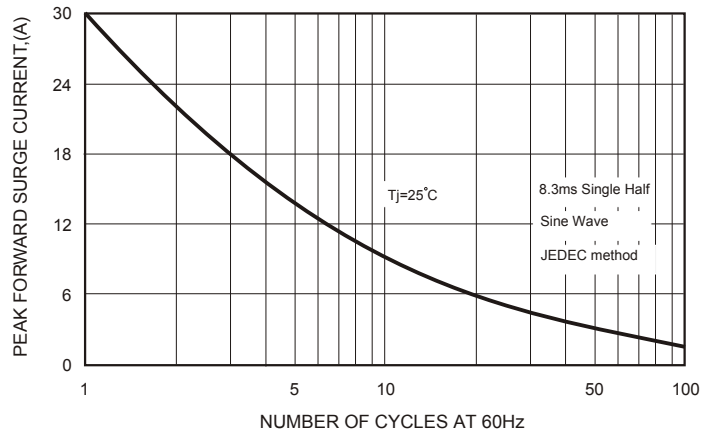


FIG.5-TYPICAL JUNCTION CAPACITANCE

