

# SME1A -SME1M

**PRV : 50 - 1000 Volts**  
**Io : 1.0 Ampere**

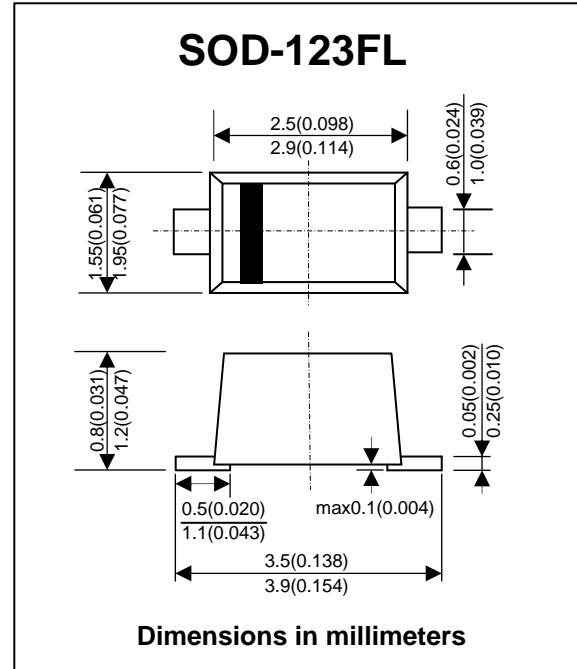
## FEATURES :

- \* Glass passivated junction chip
- \* High surge current capability
- \* High reliability
- \* Low reverse current
- \* Low forward voltage drop
- \* Fast switching for high efficiency
- \* **Pb Free / RoHS Compliant**

## MECHANICAL DATA :

- \* Case: JEDEC SOD-123FL, molded plastic over passivated chip
- \* Terminals: Solder Plated, solderable per MIL-STD-750, Method 2026
- \* Polarity: Color band denotes cathode end
- \* Mounting position : Any
- \* Weight: 0.02 gram (Approximate)

# SURFACE MOUNT HIGH EFFICIENT RECTIFIERS



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

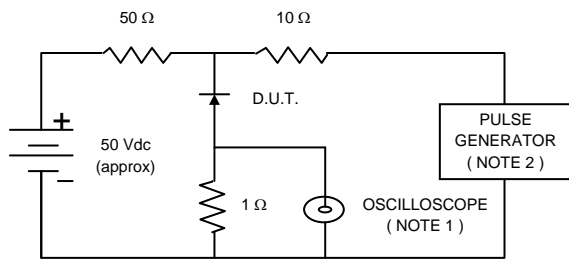
RATING	SYMBOL	SME1A	SME1B	SME1D	SME1E	SME1G	SME1J	SME1K	SME1M	UNIT	
Marking		EA	EB	ED	EE	EG	EJ	EK	EM		
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	300	400	600	800	1000	V	
Maximum RMS Voltage	$V_{RMS}$	35	70	140	210	280	420	560	700	V	
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	300	400	600	800	1000	V	
Maximum Average Forward Current $T_a = 55\text{ }^\circ\text{C}$	$I_{F(AV)}$	1.0								A	
Maximum Peak Forward Surge Current, 8.3ms Single half sine wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	30								A	
Maximum Forward Voltage at $I_F = 1.0\text{ A}$	$V_F$	1.1			1.7			2.2		V	
Maximum DC Reverse Current $T_a = 25\text{ }^\circ\text{C}$ at Rated DC Blocking Voltage $T_a = 100\text{ }^\circ\text{C}$	$I_R$	5.0								$\mu\text{A}$	
	$I_{R(H)}$	50								$\mu\text{A}$	
Maximum Reverse Recovery Time ( Note 1 )	$T_{rr}$	50					75				ns
Typical Junction Capacitance ( Note 2 )	$C_J$	50								pF	
Junction Temperature Range	$T_J$	- 65 to + 150								$^\circ\text{C}$	
Storage Temperature Range	$T_{STG}$	- 65 to + 150								$^\circ\text{C}$	

### 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 1.0 MHz and applied reverse voltage of 4.0 Vdc

## RATING AND CHARACTERISTIC CURVES (SME1A - SME1M)

FIG.1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



NOTES : 1. Rise Time = 7 ns max., Input Impedance = 1 megaohm, 22 pF.  
2. Rise time = 10 ns max., Source Impedance = 50 ohms.  
3. All Resistors = Non-inductive Types.

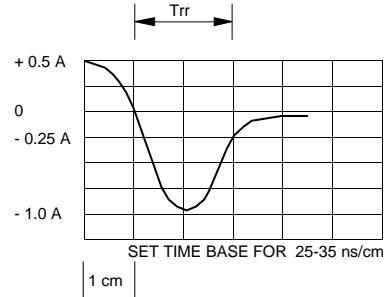


FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

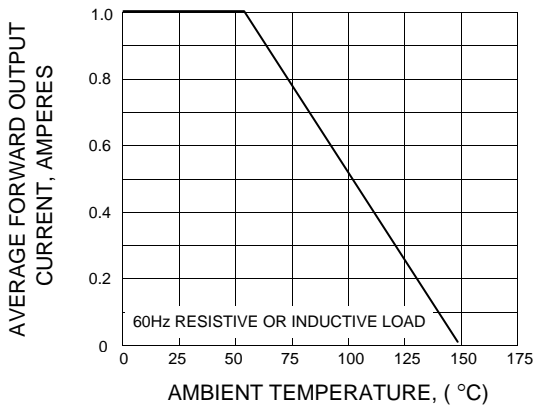


FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

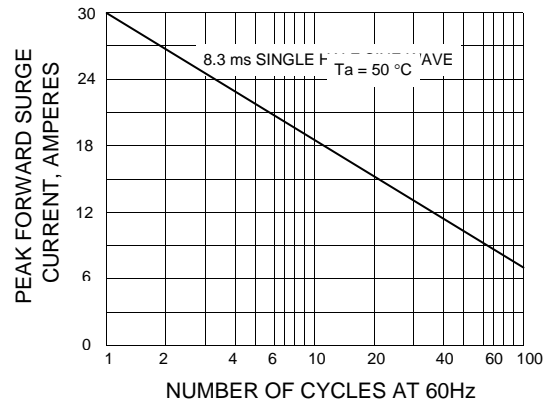


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

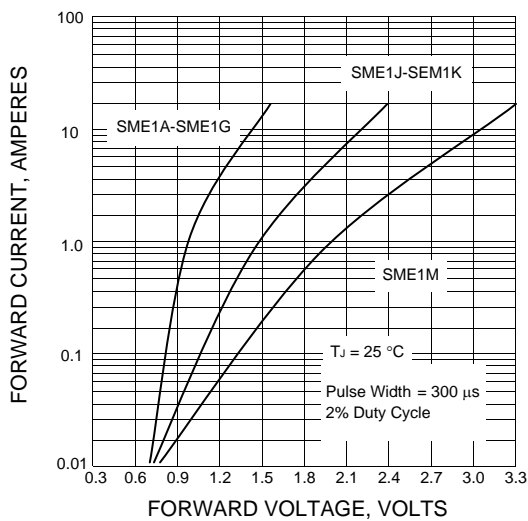


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

