

# SMS1A - SMS1M

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

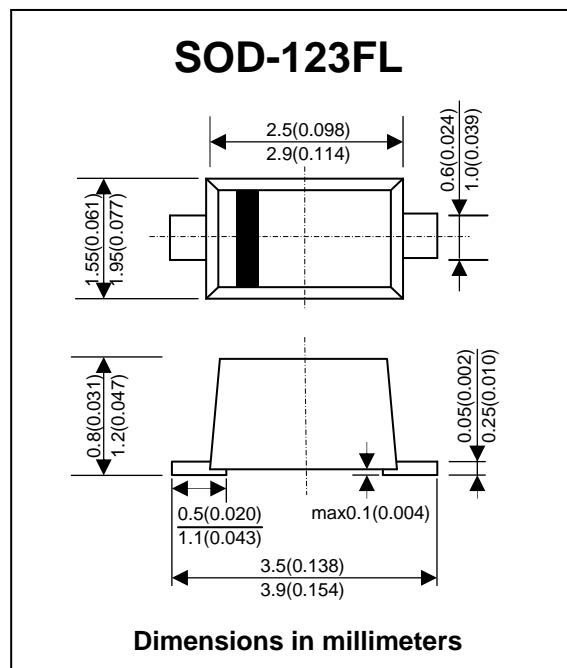
## FEATURES :

- \* Glass passivated junction chip
- \* High surge current capability
- \* High reliability
- \* Low reverse current
- \* Low forward voltage drop
- \* Super fast recovery time
- \* **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 SUPER FAST 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%.

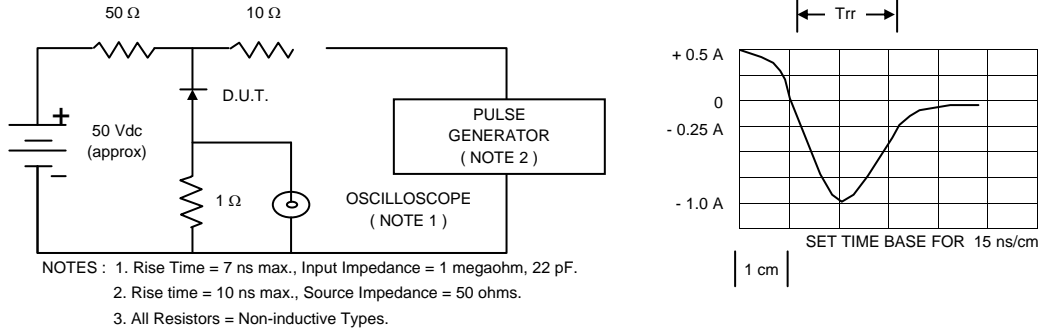
RATING	SYMBOL	SMS1A	SMS1B	SMS1D	SMS1G	SMS1J	SMS1K	SMS1M	UNIT
Marking		SA	SB	SD	SG	SJ	SK	SM	
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum Average Forward Current $T_a = 55\text{ }^\circ\text{C}$	$I_{F(AV)}$								A
Maximum Peak Forward Surge Current 8.3 ms. Single half sine wave Superimposed on rated load (JEDEC Method)	$I_{FSM}$					30			A
Maximum Peak Forward Voltage at $I_F = 1.0\text{ A}$	$V_F$	0.95		1.7		4.0		V	
Maximum DC Reverse Current at Rated DC Blocking Voltage	$I_R$	5.0				10		$\mu\text{A}$	
Maximum Reverse Recovery Time ( Note 1 )	$T_{rr}$					35			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 :

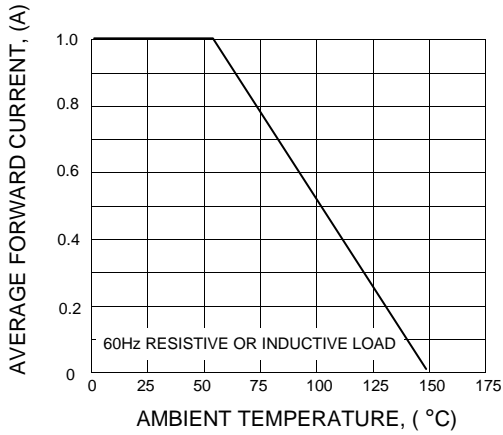
- ( 1 ) Reverse Recovery Test Conditions :  $I_F = 0.5\text{ A}$ ,  $I_R = 1.0\text{ A}$ ,  $I_{rr} = 0.25\text{ A}$ .
- ( 2 ) Measured at 1.0 MHz and applied reverse voltage of 4.0 V<sub>DC</sub>

## RATING AND CHARACTERISTIC CURVES ( SMS1A - SMS1M )

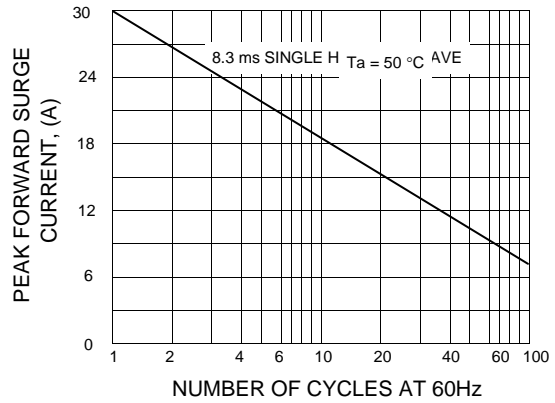
**FIG.1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM**



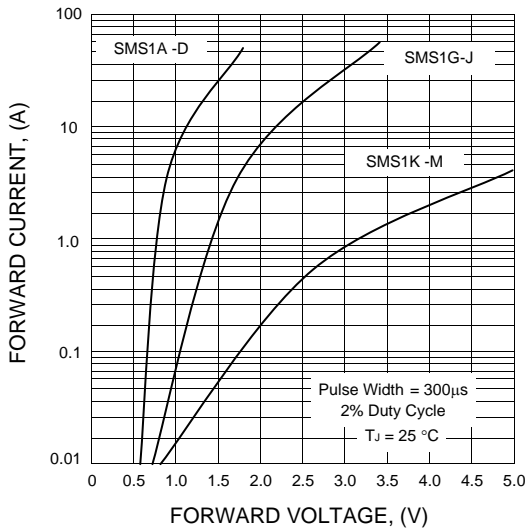
**FIG.2 - DERATING CURVE CURRENT**



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



**FIG.4 - TYPICAL FORWARD CHARACTERISTICS**



**FIG.5 - TYPICAL REVERSE CHARACTERISTICS**

