

RoHS Compliant Product  
A suffix of "-C" specifies halogen & lead-free

## FEATURES

- Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance.
- Low profile surface mounted application in order to optimize board space.
- Small plastic SMD package.
- High current capability.
- Fast switching for high efficiency.
- High surge current capability.
- Glass-passivated chip junction.

## MECHANICAL DATA

- Case: Molded plastic, SOD-123 / Mini SMA
- Epoxy: UL94-V0 rate flame retardant
- Polarity: Indicated by cathode band
- Mounting position: Any
- Weight: Approximated 0.027 gram

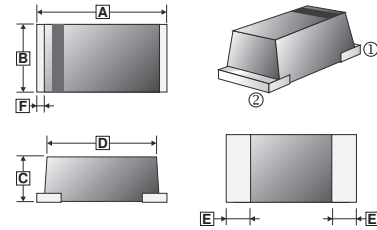
## MARKING

Part Number	Marking	Part Number	Marking
SMF101M	F4	SMF105M	F5
SMF102M	F4	SMF106M	F6
SMF103M	F4	SMF107M	F7
SMF104M	F4		

## PACKAGE INFORMATION

Package	MPQ	Leader Size
SOD-123M	2.5K	7 inch

## SOD-123M



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	3.50	3.90	D	3.60 (MAX.)	
B	1.40	1.80	E	0.80 (TYP.)	
C	1.30	1.70	F	0.30 (TYP.)	

**ABSOLUTE MAXIMUM RATINGS** ( $T_A=25^\circ\text{C}$  unless otherwise specified)

Parameters	Symbol	Part Number							Unit
		SMF 101M	SMF 102M	SMF 103M	SMF 104M	SMF 105M	SMF 106M	SMF 107M	
Maximum repetitive 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 Continuous reverse voltage	$V_R$	50	100	200	400	600	800	1000	V
Maximum Instantaneous Forward Voltage	$V_F$	1.3							V
Maximum average forward rectified current @ $T_A=55^\circ\text{C}$	$I_O$	1							A
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	30							A
Maximum DC Reverse Current at Rated DC Blocking Voltage	$T_A=25^\circ\text{C}$	5							$\mu\text{A}$
	$T_A=125^\circ\text{C}$	100							
Diode Junction Capacitance <sup>1</sup>	$C_J$	15							pF
Maximum Reverse Recovery Time <sup>2</sup>	$T_{rr}$	150			250	500		nS	
Thermal resistance Junction to ambient	$R_{\theta JA}$	42							$^\circ\text{C} / \text{W}$
Operating & Storage Temperature	$T_J, T_{STG}$	-65~150, -65~175							$^\circ\text{C}$

NOTE:

1. Measured at 1.0MHz and applied reverse voltage of 4.0V D.C.
2. Reverse recovery time test condition,  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{RR}=0.25\text{A}$ .

**RATINGS AND CHARACTERISTIC CURVES**

FIG.1-TYPICAL FORWARD CHARACTERISTICS

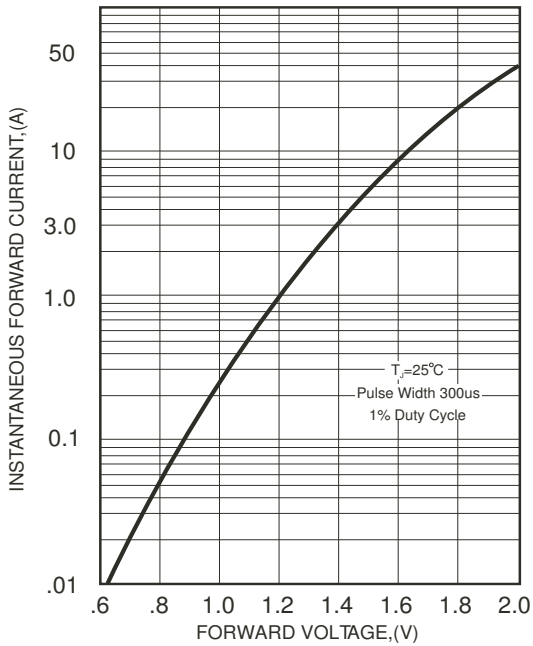


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

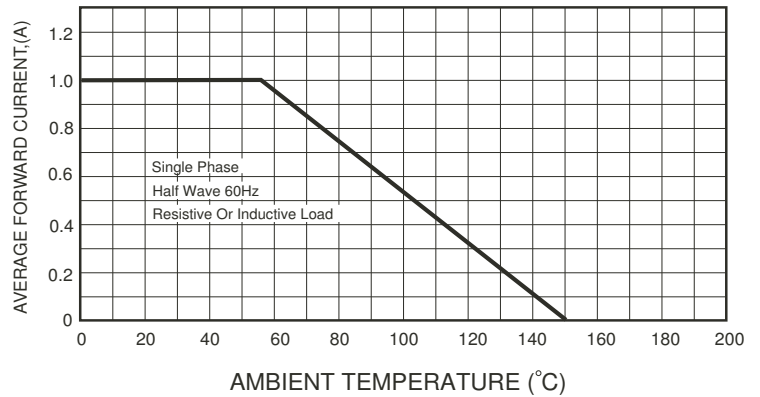


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

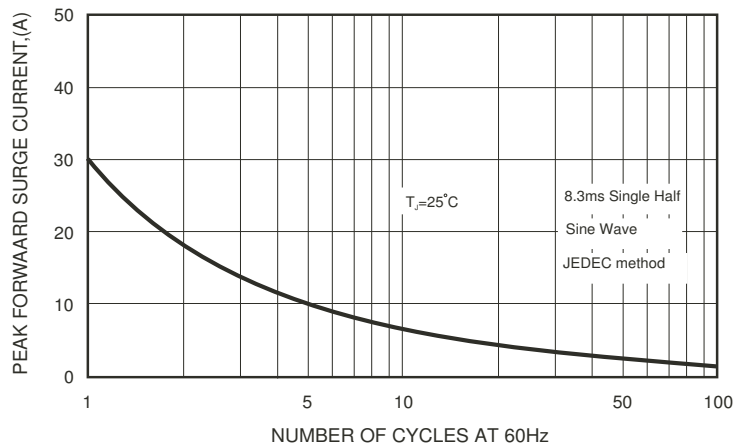
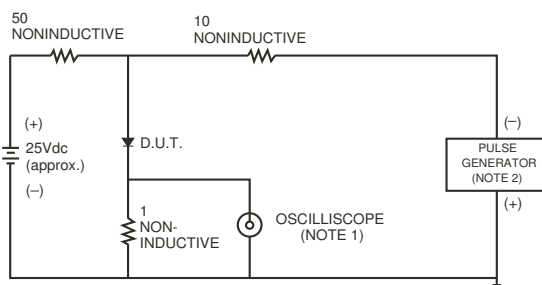


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



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

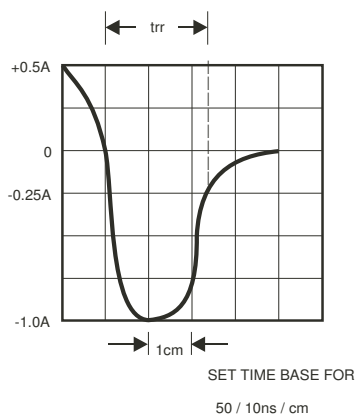


FIG.5-TYPICAL JUNCTION CAPACITANCE

