

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

## FEATURES

- Glass passivated device
- Ideal for surface mounted applications
- Low leakage current
- Metallurgically bonded construction
- High temperature soldering:  
260°C /10 seconds at terminals

## 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
- Weight: 0.0008 ounces, 0.022 gram
- Mounting position: Any

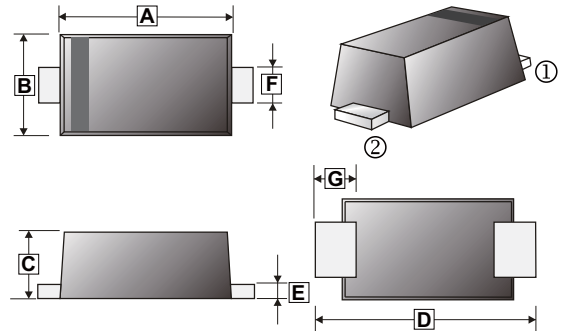
## MARKING

Product	Marking Code	Product	Marking Code
SMF102FL	RB	SMF105FL	RJ
SMF103FL	RD	SMF106FL	RK
SMF104FL	RG	SMF107FL	RM

## PACKAGE INFORMATION

Package	MPQ	Leader Size
SOD-123FL	2.5K	7' inch

## SOD-123FL



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.70	2.90	E	0.10	0.30
B	1.80	2.00	F	0.80	1.20
C	1.55	1.25	G	0.35	0.85
D	3.50	3.90			

## 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, de-rate current by 20%.)

Parameters	Symbol	Part Number						Unit
		SMF 102FL	SMF 103FL	SMF 104FL	SMF 105FL	SMF 106FL	SMF 107FL	
Recurrent Reverse Voltage (Max.)	$V_{RRM}$	100	200	400	600	800	1000	V
RMS Voltage (Max.)	$V_{RMS}$	70	140	280	420	560	700	V
DC Blocking Voltage (Max.)	$V_{DC}$	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current @ $T_A = 65^\circ\text{C}$ <sup>1</sup>	$I_{(AV)}$	1.0						A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load $T_L=25^\circ\text{C}$	$I_{FSM}$	20						A
Typical thermal resistance junction to ambient <sup>2</sup>	$R_{\theta JA}$	180						K / W
Typical thermal resistance junction to lead <sup>4</sup>	$R_{\theta JC}$	40						K / W
Maximum reverse recovery time <sup>3</sup>	$T_{RR}$	150		250		500		ns
Operating Temperature Range	$T_j$	-55~150						°C
Storage Temperature Range	$T_{STG}$	-55~150						°C

Notes :

1. Averaged over any 20 ms period.
2. Thermal resistance junction to ambient, 6.0 mm<sup>2</sup> copper pads to each terminal.
3. Measured with  $I_F=0.5\text{A}$ ,  $I_R=1\text{A}$ ,  $I_{RR}=0.25\text{A}$ .
4. Thermal resistance junction to case.

## ELECTRICAL CHARACTERISTICS

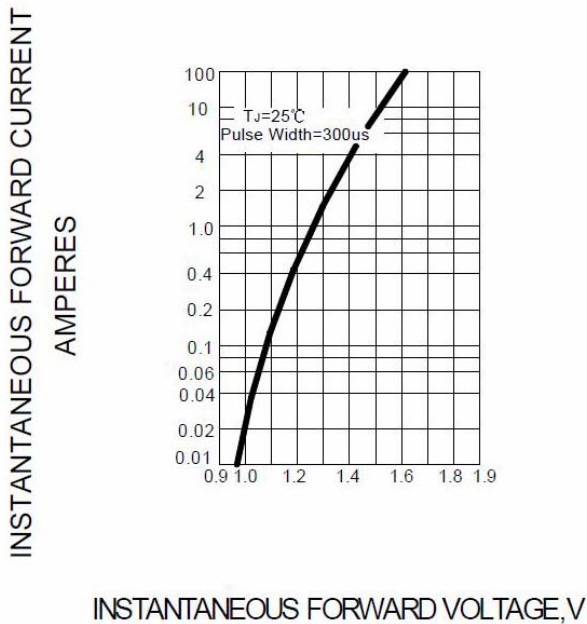
Parameters	Symbol	Min.	Typ.	Max.	Units	Testing Conditions
Maximum instantaneous <sup>5</sup>	$V_F$	-	-	1.3	V	forward voltage @ 1.0A
Maximum DC reverse current	$I_R$	-	-	10	μA	$T_A=25^\circ\text{C}$
At rated DC blocking voltage	$I_R$	-	-	50	μA	$T_A=125^\circ\text{C}$
Typical junction capacitance <sup>6</sup>	$C_J$	-	4	-	pF	

Notes :

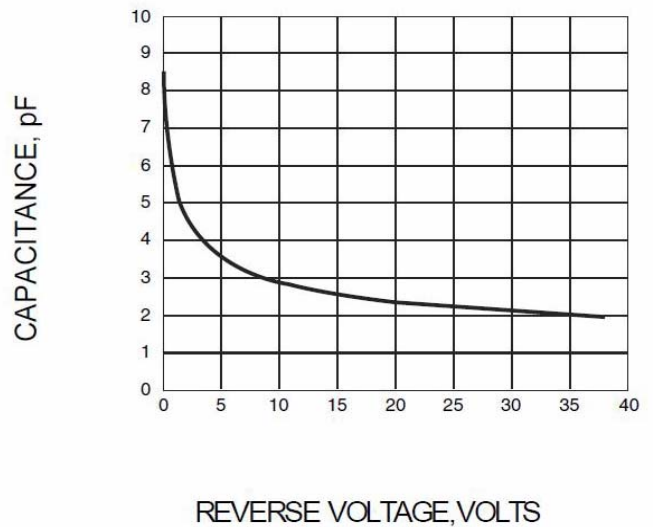
5. Pulse test:300μs pulse width,1% duty cycle.
6. Measured at 1.0MHz and applied average voltage of 4.0V DC.

**RATINGS AND CHARACTERISTIC CURVES (SMF102FL~SMF107FL)**

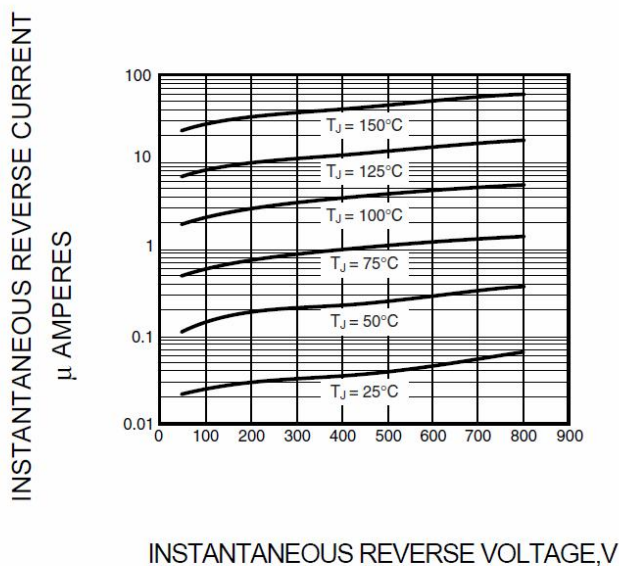
**FIG.1 – TYPICAL FORWARD CHARACTERISTIC**



**FIG.2 – TYPICAL JUNCTION CAPACITANCE**



**FIG.3 – TYPICAL INSTANTANEOUS REVERSE CHARACTERISTICS**



**FIG.4 – FORWARD DERATING CURVE**

