

## Surface Mount General Purpose Silicon

### FEATURES

- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Easy to pick and place
- Lead free in comply with EU RoHS 2011/65/EU directives

### MECHANICAL DATA

- Case: SOD-123FL
- MARKING: S1M



Top View

Simplified outline SOD-123FL and symbol

### PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode

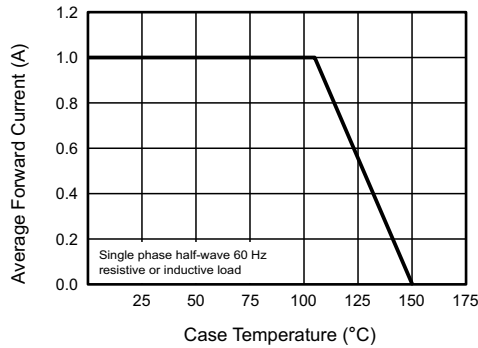
### Maximum Ratings and Electrical characteristics

Parameter	Symbols	S1M	Units
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	1000	V
Maximum RMS voltage	$V_{RMS}$	700	V
Maximum DC Blocking Voltage	$V_{DC}$	1000	V
Maximum Average Forward Rectified Current@ Fig.1	$I_{F(AV)}$	1	A
Peak Forward Surge Current,8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	30	A
Peak Forward Surge Current,1ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	60	A
$I^2t$ Rating for fusing( $3ms \leq t \leq 8.3ms$ )	$I^2t$	3.7	A <sup>2</sup> S
Maximum Instantaneous Forward Voltage at 1 A	$V_F$	1.1	V
Maximum DC Reverse Current at Rated DC Blocking Voltage	$I_R$	5 100	$\mu$ A
Typical Junction Capacitance <sup>(1)</sup>	$C_j$	7	pF
Typical Thermal Resistance <sup>(2)</sup>	$R_{\theta JA}$ $R_{\theta JC}$ $R_{\theta JL}$	100 22 30	$^{\circ}$ C/W
Operating and Storage Temperature Range	$T_j, T_{stg}$	-55 ~ +150	$^{\circ}$ C

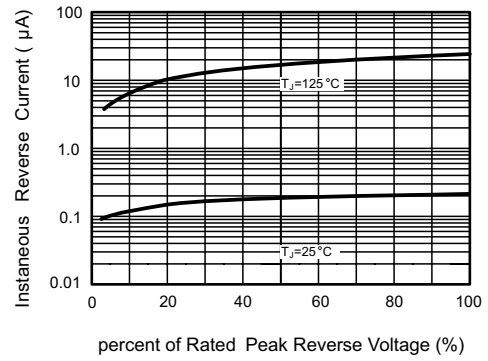
( 1 ) Measured at 1 MHz and applied reverse voltage of 4 V D.C

( 2 ) P.C.B. mounted with 0.2"X 0.2" (5 X 5 mm) copper pad areas.

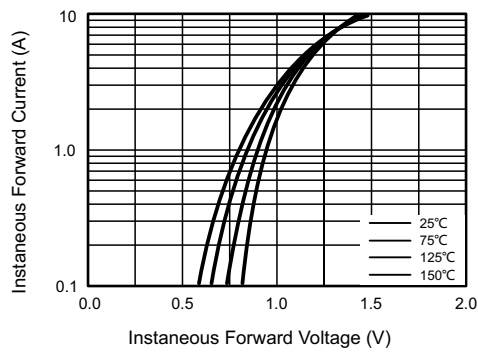
**Fig.1 Forward Current Derating Curve**



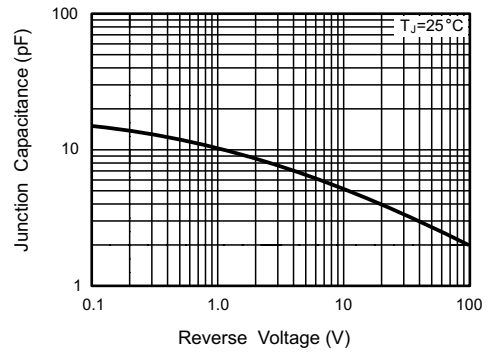
**Fig.2 Typical Instantaneous Reverse Characteristics**



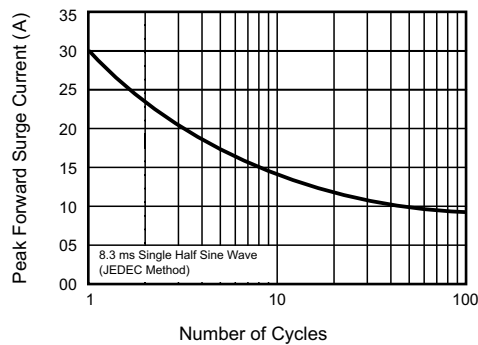
**Fig.3 Typical Forward Characteristic**



**Fig.4 Typical Junction Capacitance**

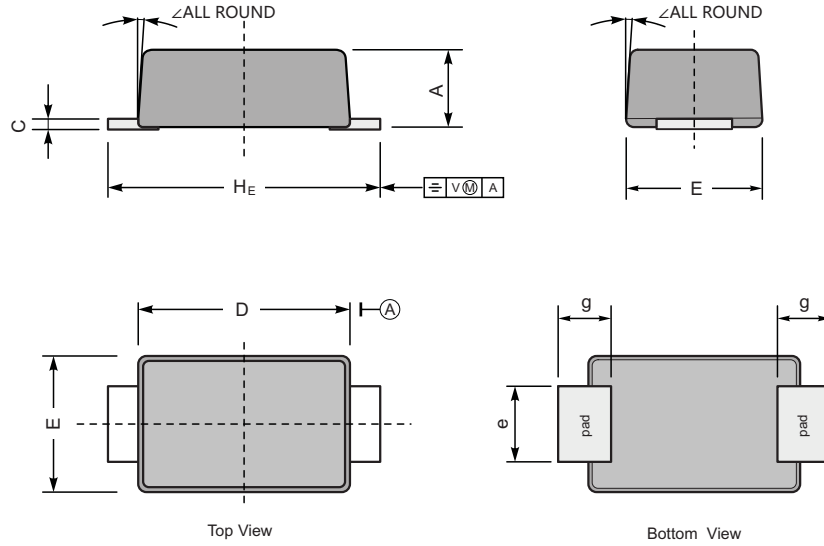


**Fig.5 Maximum Non-Repetitive Peak Forward Surge Current**



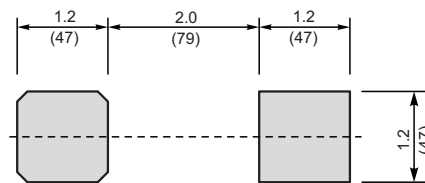
**PACKAGE OUTLINE**  
Plastic surface mounted package; 2 leads

**SOD-123FL**



UNIT		A	C	D	E	e	g	H <sub>E</sub>	∠
mm	max	1.1	0.20	2.9	1.9	1.1	0.9	3.8	7°
	min	0.9	0.12	2.6	1.7	0.8	0.7	3.5	
mil	max	43	7.9	114	75	43	35	150	
	min	35	4.7	102	67	31	28	138	

**The recommended mounting pad size**



Unit:  $\frac{\text{mm}}{\text{mil}}$