



## U1A THRU U1M

VOLTAGE RANGE 50 to 1000 Volts  
CURRENT 1.0 Ampere

## Features

- Fast recovery glass passivated
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- High temperature soldering: 260°C/10S at terminals
- Component in accordance to RoHS 2002/95/1 and WEEE 2002/96/EC



## Mechanical Data

- Case: JEDEC SOD-123FL mold plastic Body over glass passivated chip
- Terminals:Solder plated, solderable per J-STD-002B and JESD22-B102D
- Polarity: Laser band denote cathode band
- Weight: 0.00063ounce, 0.018grams

## Maximum Ratings and Electrical Characteristics

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

TYPE NUMBER	SYMBOL	U1A	U1B	U1D	U1G	U1J	U1K	U1M	UNITS					
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	Volts					
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	700	Volts					
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	Volts					
Maximum Average Forward Rectified Current At $T_A=100^\circ C$	$I_{AV}$	1.0						Amps						
Peak Forward Surge Current 8.3ms single half sine wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	30						Amps						
Maximum Instantaneous Forward Voltage per at 1.0A	$V_F$	1.0		1.30		1.70		Volts						
Maximum DC Reverse Current at rated DC Blocking Voltage	$T_A = 25^\circ C$ $T_A = 125^\circ C$	$I_R$	5.0						$\mu A$					
Typical Reverse Recovery Time Test conditions <sup>(Note 1)</sup>	$T_{RR}$		100											
Typical Junction Capacitance <sup>(Note 2)</sup>	$C_J$	20		15		pF								
Typical Thermal Resistance <sup>(Note 3)</sup>	$R_{BJA}$	60						$^\circ C/W$						
	$R_{BJL}$	45												
Operating Junction Temperature	$T_J$	(-55 to +150)						$^\circ C$						
Storage Temperature Range	$T_{STG}$	(-55 to +150)						$^\circ C$						

## Notes:

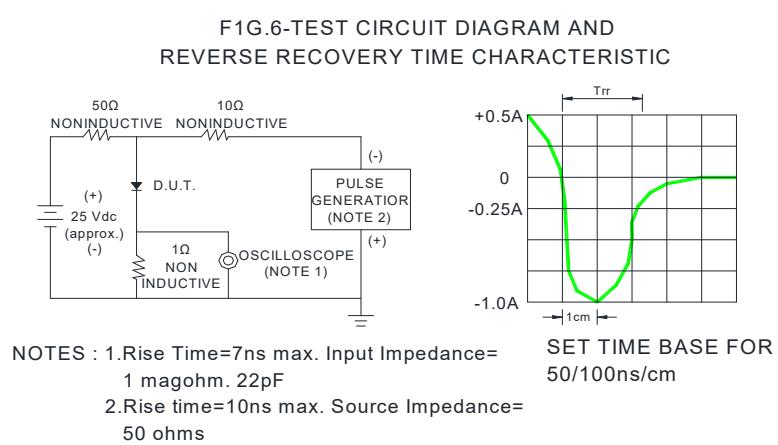
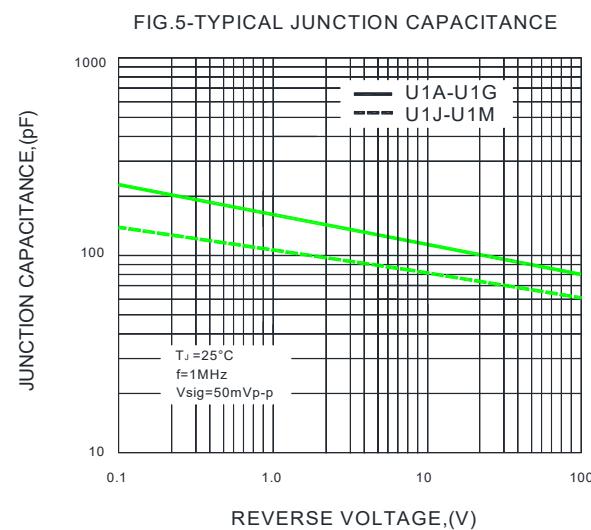
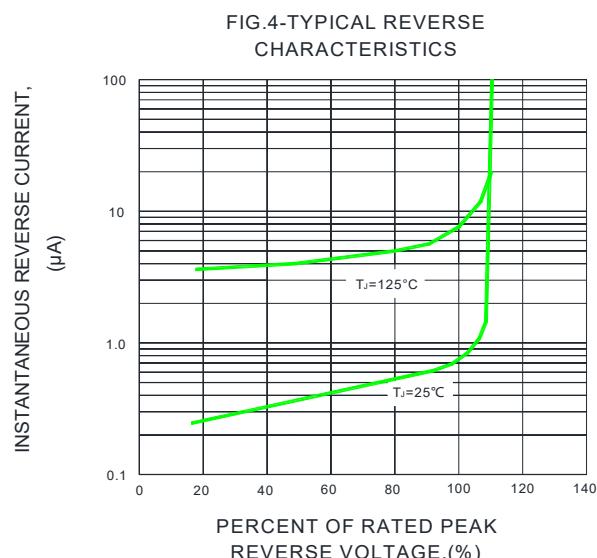
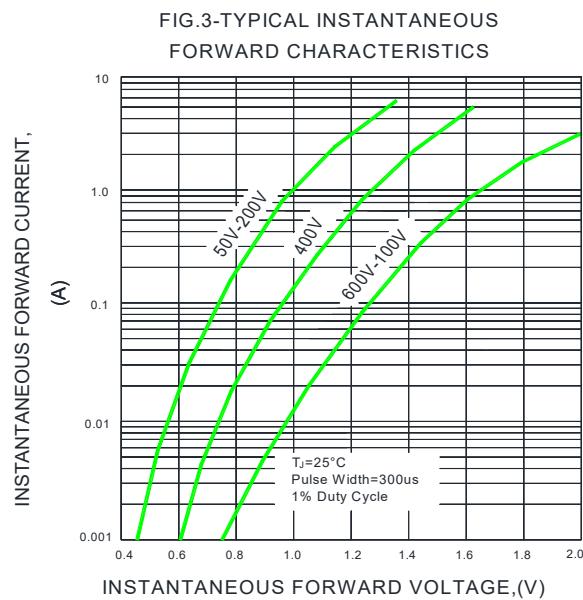
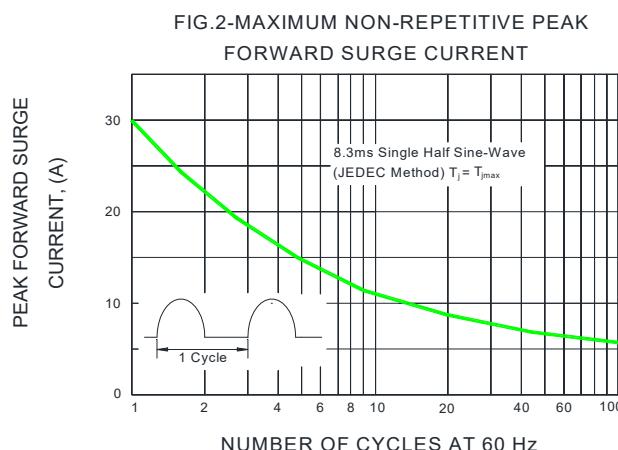
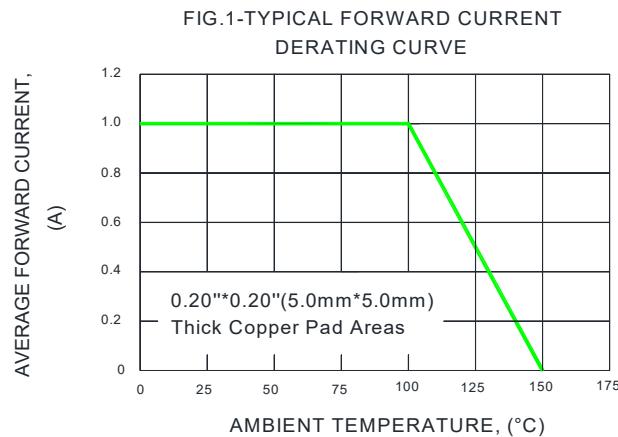
- 1.Reverse Recovery Test Conditions: $I_f=0.5A, I_r=1.0A, I_{rr}=0.25A$ .
- 2.Measured at 1.0MHz and applied reverse voltage of 4.0 Volts.
- 3.Thermal Resistance from Junction to Ambient at.  $5.0 \times 5.0\text{mm}^2$  copper pad areas.



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Ratings and Characteristic Curves ( $T_A=25^\circ\text{C}$  unless otherwise noted)

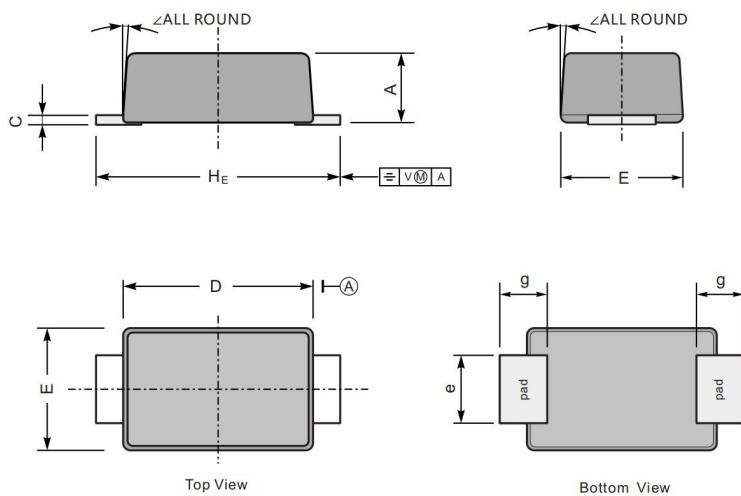




## Package Outline Dimensions in inches (millimeters)

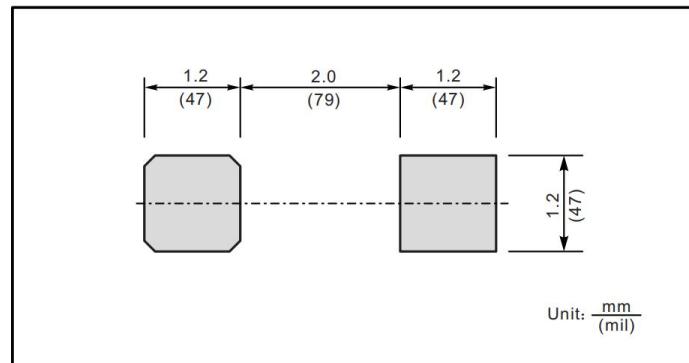
SOD-123FL

Unit: mm



UNIT		A	C	D	E	e	g	H <sub>E</sub>	angle
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	7°
	min	35	4.7	102	67	31	28	138	

## The recommended mounting pad size



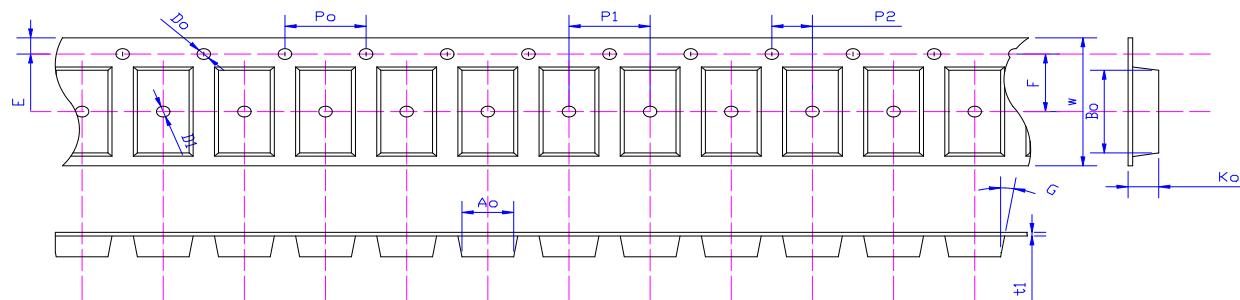


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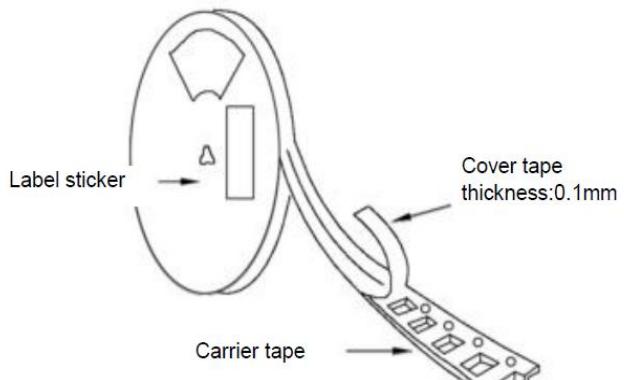
## Packing Requirements

- PS black anti-static carrier tape packing



Specifications	Ao	Bo	Ko	Po	W	t1
SOD123FL	2.12±0.10	3.95±0.10	1.35±0.10	4.00±0.1	8.0±0.10	0.20±0.02

- 7 "antistatic plastic reel



DEVICE TYPE	07" Reel			
	Q'TY/REEL(pcs)	REEL/BOX	BOX/CARTON	Q'TY/CARTON(pcs)
SOD123FL	3000	4	16	192000

## Reflow Profile



## SURFACE MOUNT HIGH EFFICIENCY RECTIFIER

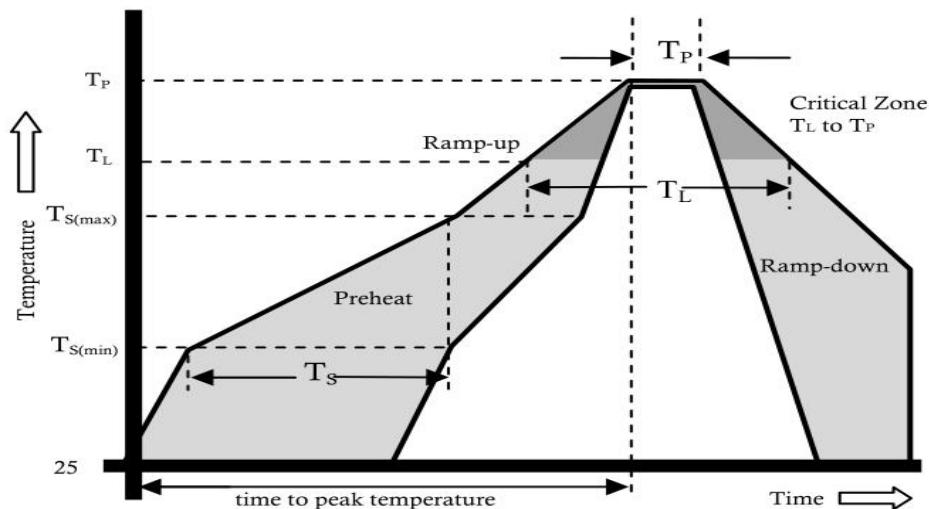
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Reflow Condition		Pb-Free Assembly
Pre Heat	Temperature Min.	+150°C
	Temperature Max.	+200°C
	Time(Min to Max)	60-180 secs.
Average ramp up rate(Liquidus Temp( $T_l$ ) to peak)		3°C/sec. Max.
$T_s$ (max) to $T_l$ - Ramp-up Rate		3°C/sec. Max.
Reflow	Temperature ( $T_l$ )(Liquidus)	+217°C
	Temperature ( $T_l$ )	60-150 secs.
Peak Temp ( $T_p$ )		+(260+0/-5 )°C
Time within 5°C of actual Peak Temp ( $T_p$ )		25 secs.
Ramp-down Rate		6°C/sec. Max.
Time 25°C to peak Temp ( $T_p$ )		8 min. Max.
Do not exceed		+260°C



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### Disclaimer

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