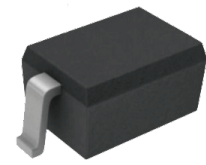


## FEATURES

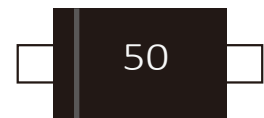
- | Surface Mount Package Ideally Suited for Automatic Insertion
- | Very Low reverse leakage



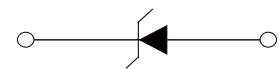
SOD-123

## MECHANICAL DATA

- | SOD-123 Small Outline Plastic Package
- | Polarity: Color band denotes cathode end
- | Mounting Position: Any



Marking



Schematic Symbol

## APPROVALS

<b>RoHS</b>	Compliance with 2011/65/EU
<b>HF</b>	Compliance with IEC61249-2-21:2003

## MAXIMUM RATINGS (T<sub>A</sub>=25°C)

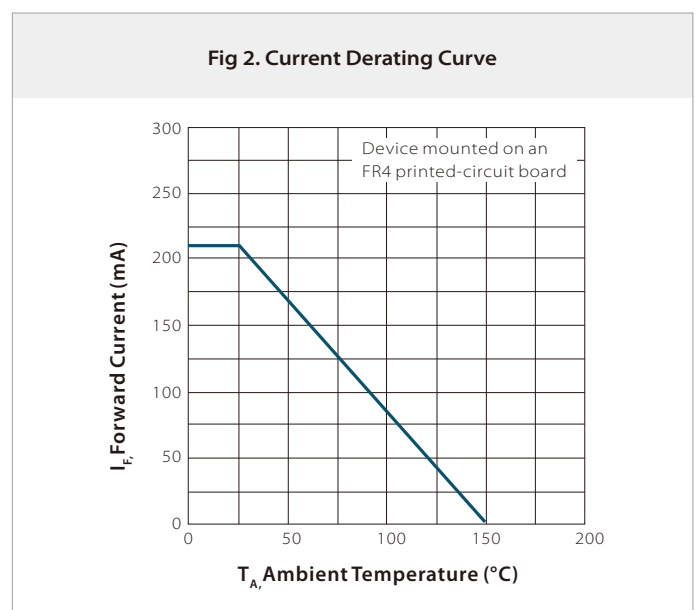
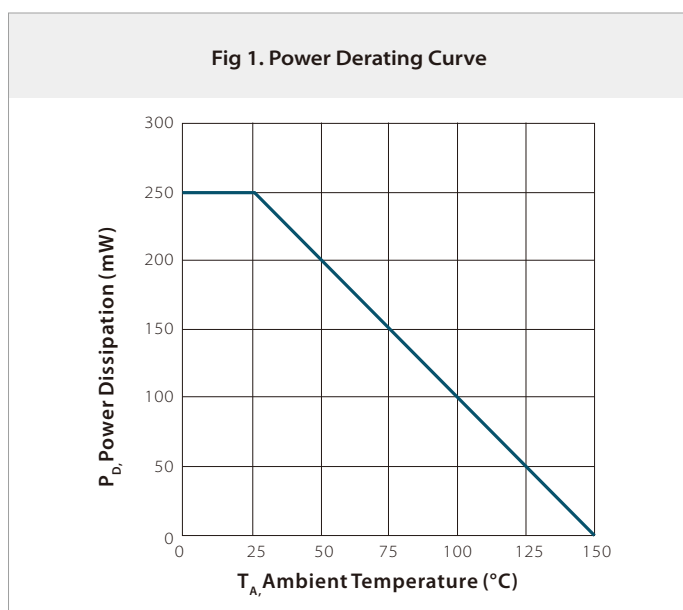
Parameter	Symbol	Value	Unit	
Reverse Breakdown Voltage	V <sub>RRM</sub>	130	V	
Working Peak Reverse Voltage	V <sub>RWM</sub>	130		
DC Blocking Voltage	V <sub>R</sub>	130		
RMS Reverse Voltage	V <sub>R(RMS)</sub>	90	V	
Power Dissipation(note 2)	P <sub>d</sub>	250	mW	
Forward Continuous Current	I <sub>FM</sub>	215	mA	
Repetitive Peak Forward Current	I <sub>FRM</sub>	500	mA	
Thermal Resistance from Junction to Ambient	R <sub>θJA</sub>	500	°C/W	
Peak Forward Surge Current T <sub>A</sub> =25°C @	I <sub>FSM</sub>	tp=1.0us	4.0	A
		tp=1.0ms	1.0	
		tp=1.0s	0.5	
Junction Temperature	T <sub>J</sub>	150	°C	
Storage Temperature Range	T <sub>STG</sub>	-65 to +150	°C	

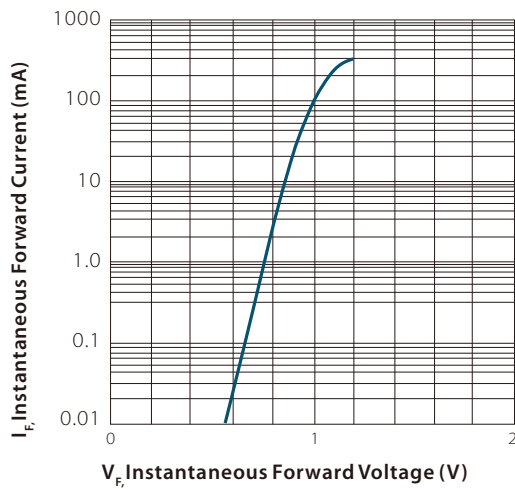
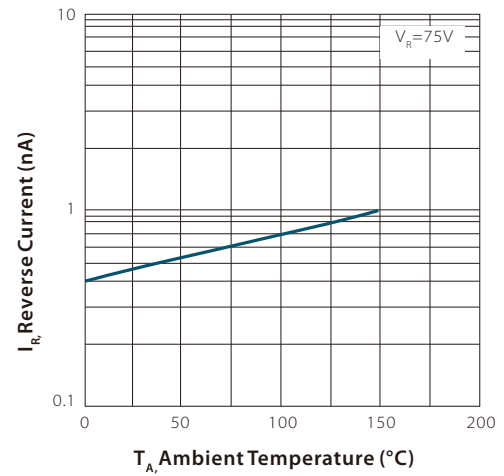
## ELECTRICAL CHARACTERISTICS( $T_A=25^{\circ}\text{C}$ )

Parameter	Test Condition	Symbol	Min.	Typ.	Max.	Unit
Reverse Voltage(note 1)	$I_R = 100\mu\text{A}, T_J = 25^{\circ}\text{C}$	$V_{BR}$	130			V
	$I_R = 100\mu\text{A}, T_J = 125^{\circ}\text{C}$		130			
Reverse Leakage Current(note 1)	$V_R = 75\text{V}, T_J = 25^{\circ}\text{C}$	$I_R$			5.0	nA
	$V_R = 75\text{V}, T_J = 125^{\circ}\text{C}$				80	
Forward Voltage(note 1)	$I_F = 1.0\text{mA}, T_J = 25^{\circ}\text{C}$	$V_F$			0.9	V
	$I_F = 10\text{mA}, T_J = 25^{\circ}\text{C}$				1.0	
	$I_F = 50\text{mA}, T_J = 25^{\circ}\text{C}$				1.1	
	$I_F = 150\text{mA}, T_J = 25^{\circ}\text{C}$				1.25	
	$I_F = 10\text{mA}, T_J = 125^{\circ}\text{C}$				1.0	
Total Capacitance	$V_R = 0\text{V}, f = 1\text{MHz}$	$C_T$		2.4	5	pF
Reverse Recovery Time	$I_F = I_R = 10\text{mA}$ $I_{rr} = 0.1 \times I_R, R_L = 100\Omega$	$t_{rr}$			3	$\mu\text{s}$

Notes: 1. Short duration pulse to minimize self-heating effect  
 2. Part mounted on FR-4 PC board with recommended pad layout.

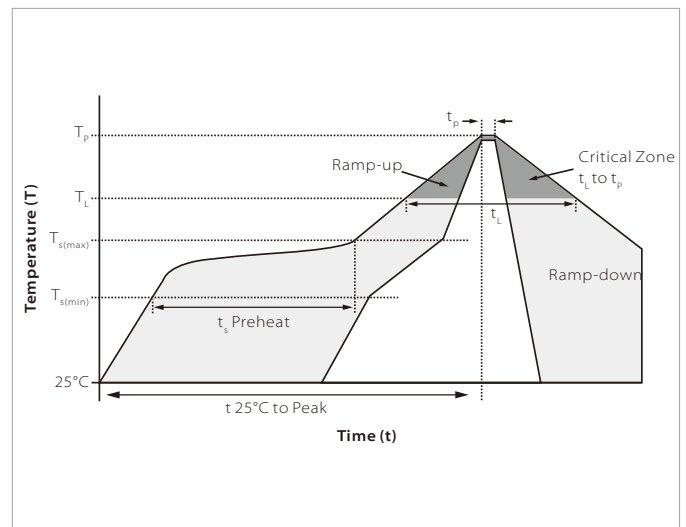
## CHARACTERISTIC CURVES



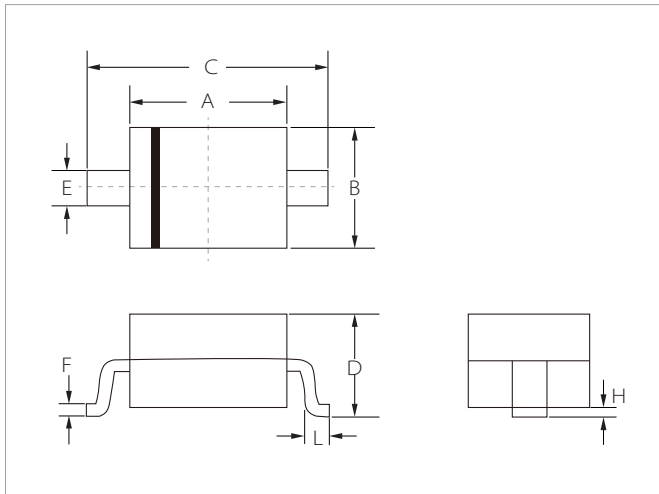
**Fig 3. Typical Forward Characteristics**

**Fig 4. Typical Reverse Characteristics**


## SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ( $T_{s(min)}$ )	150°C
	Temperature Max ( $T_{s(max)}$ )	200°C
	Time (min to max) ( $t_s$ )	60 – 180 secs
Average ramp up rate (Liquidus Temp ( $T_L$ ) to peak)		3°C/second max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		3°C/second max
Reflow	Temperature ( $T_L$ ) (Liquidus)	217°C
	Time (min to max) ( $t_r$ )	60 – 150 seconds
Peak Temperature ( $T_p$ )		260°C
Time within 5°C of actual peak Temperature ( $t_p$ )		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature ( $T_p$ )		8 minutes max.
Do not exceed		260°C

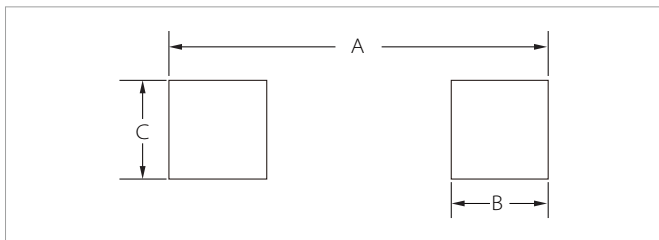


## SOD-123 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.60	2.80	0.102	0.110
B	1.50	1.70	0.059	0.067
C	3.55	3.85	0.140	0.152
D	1.05	1.25	0.041	0.049
E	0.45	0.65	0.018	0.026
F	0.08	0.15	0.003	0.006
H	0.00	0.10	0.000	0.004
L	0.25	0.45	0.010	0.018

## RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.00	4.30	0.157	0.169
B	0.75	0.85	0.030	0.033
C	0.95	1.05	0.037	0.041

## ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
BAV116W	SOD-123	3000PCS	7"

To find your local partner within Semiwell's website : [www.semiwell.com.cn](http://www.semiwell.com.cn)

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