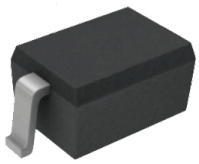
FEATURES

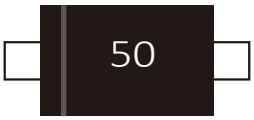
- Surface Mount Package Ideally Suited for Automatic Insertion
- Very Low reverse leakage



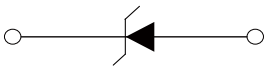
SOD-123

MECHANICAL DATA

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



Marking



Schematic Symbol

APPROVALS

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

MAXIMUM RATINGS (T_A=25°C)

Parameter		Symbol	Value	Unit
Reverse Breakdown Voltage		V_{RRM}	130	V
Working Peak Reverse Voltage		V_{RWM}	130	
DC Blocking Voltage		V_R	130	
RMS Reverse Voltage		$V_{R(RMS)}$	90	V
Power Dissipation(note 2)		P_d	250	mW
Forward Continuous Current		I_{FM}	215	mA
Repetitive Peak Forward Current		I_{FRM}	500	mA
Thermal Resistance from Junction to Ambient		$R_{\theta JA}$	500	°C/W
Peak Forward Surge Current T_A=25℃@	tp=1.0us	I_{FSM}	4.0	A
	tp=1.0ms		1.0	
	tp=1.0s		0.5	
Junction Temperature		T_J	150	℃
StorageTemperature Range		T_{STG}	-65 to +150	℃

ELECTRICAL CHARACTERISTICS(T_A=25°C)

Parameter	Test Condition	Symbol	Min.	Typ.	Max.	Unit
Reverse Voltage(note 1)	I_R = 100uA,T_j =25°C	V_{BR}	130			V
	I_R = 100uA,T_j =125°C		130			
Reverse Leakage Current(note 1)	V_R = 75V,T_j =25°C	I_R			5.0	nA
	V_R = 75V,T_j =125°C				80	
Forward Voltage(note 1)	I_F =1.0mA,T_j =25°C	V_F			0.9	V
	I_F =10mA,T_j =25°C				1.0	
	I_F =50mA,T_j =25°C				1.1	
	I_F=150mA,T_j =25°C				1.25	
	I_F=10mA,T_j =125°C				1.0	
Total Capacitance	V_R=0V, f=1MHz	C_T		2.4	5	pF
Reverse Recovery Time	I_F=I_R=10mA Irr=0.1×I_R,R_L=100Ω	t_{rr}			3	uS

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 1. Power Derating Curve

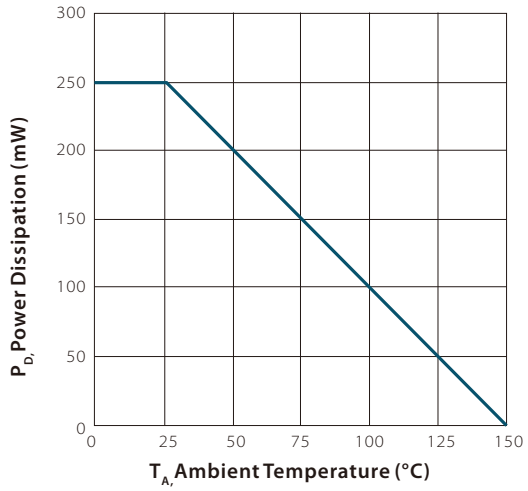


Fig 2. Current Derating Curve

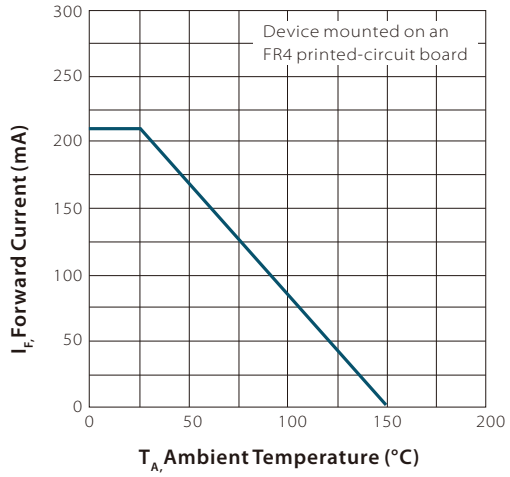


Fig 3. Typical Forward Characteristics

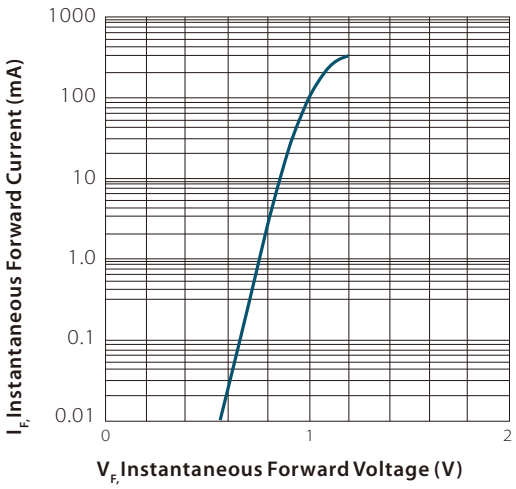
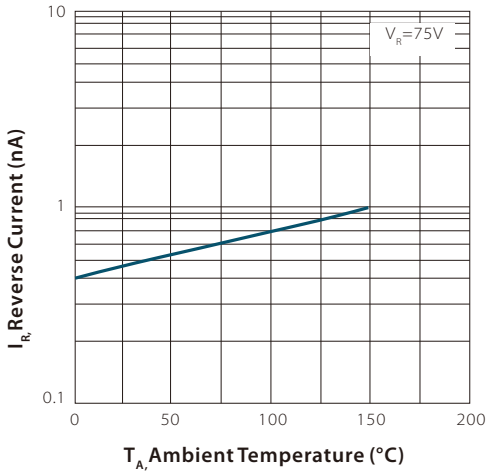
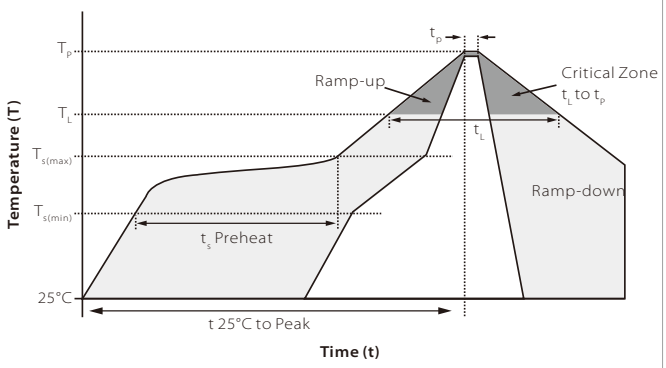


Fig 4. Typical Reverse Characteristics

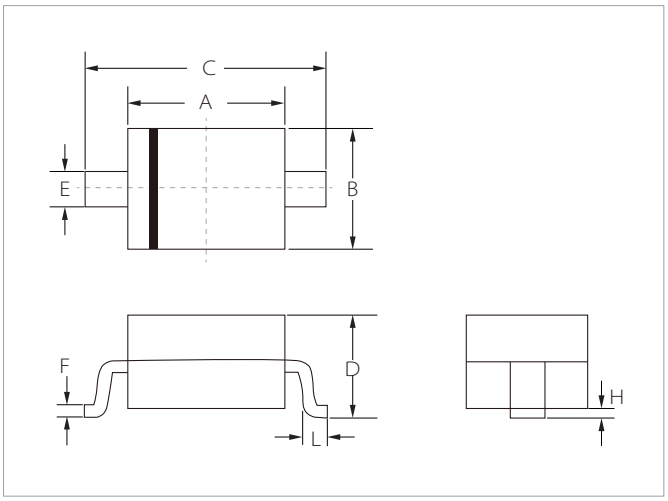


SOLDERING PARAMETERS

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_L)	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

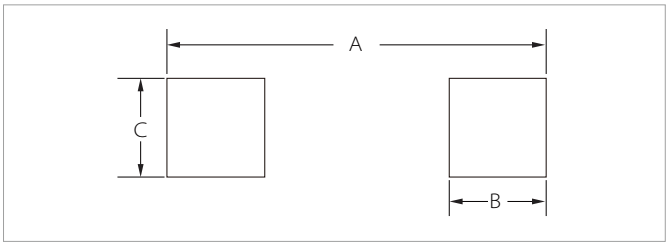


SOD-123 PACKAGE INFORMATION



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