

Features

- High breakdown voltage
- Low turn-on voltage
- Guard ring construction for transient protection



SOD-123



Schematic Diagram

Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Repetitive Peak Reverse Voltage	V_{RRM}	100	V
Working Peak Reverse Voltage	V_{RWM}		
Forward Continuous Current	I_F	150	mA
Repetitive Peak Forward Current (Note 1) @ $t_p < 1.0\text{s}$, Duty Cycle $< 50\%$	I_{FRM}	350	mA
Non-Repetitive Peak Forward Surge Current @ $t = 8.3\text{ms}$	I_{FSM}	750	mA
Power Dissipation	P_D	500	mW
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	200	$^{\circ}\text{C/W}$
Junction Temperature	T_J	125	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 to +150	$^{\circ}\text{C}$

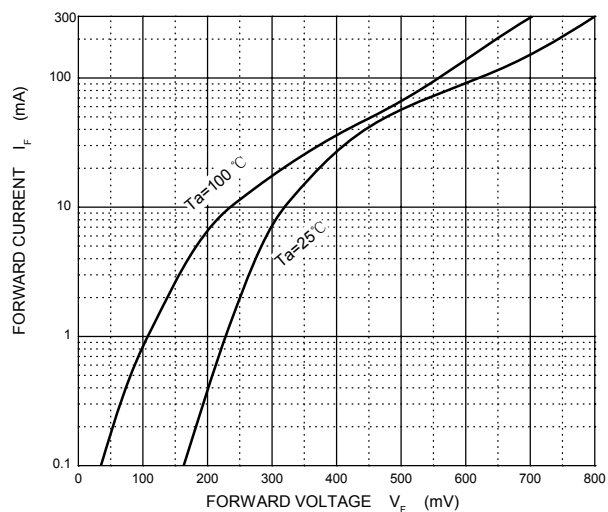
Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse Breakdown Voltage(Note 2)	V_R	$I_R = 100\mu\text{A}$	100	-	-	V
Reverse Voltage Leakage Current	I_R	$V_{R1}=1.5\text{V}$	-	-	0.3	μA
		$V_{R2}=10\text{V}$	-	-	0.5	
		$V_{R3}=50\text{V}$	-	-	1	
		$V_{R4}=75\text{V}$	-	-	2	
Forward Voltage(Note 2)	V_F	$I_{F1}=0.1\text{mA}$	-	-	0.25	V
		$I_{F2}=10\text{mA}$	-	-	0.45	
		$I_{F3}=250\text{mA}$	-	-	1	
Diode Capacitance	C_T	$V_R=0$, $f=1\text{MHz}$	-	20	-	pF
		$V_R=1\text{V}$, $f=1\text{MHz}$	-	12	-	

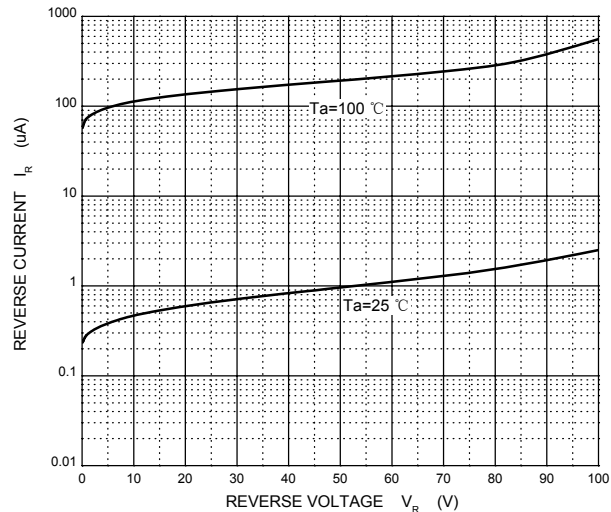
Notes: 1. Part mounted on FR-4 board with recommended pad layout.
2. Short duration pulse test used to minimize self-heating effect.

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

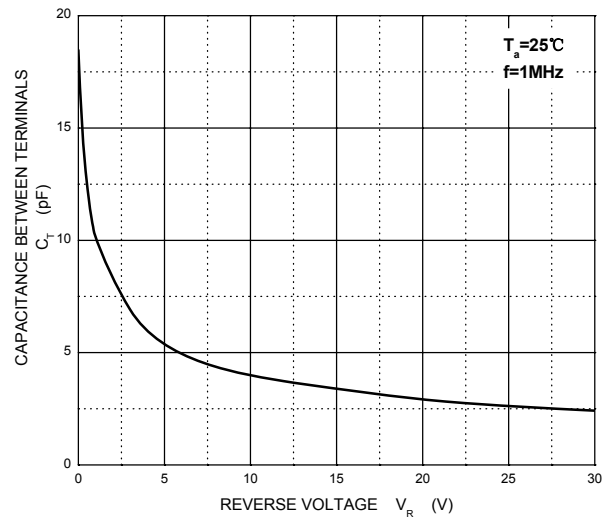
Forward Characteristics



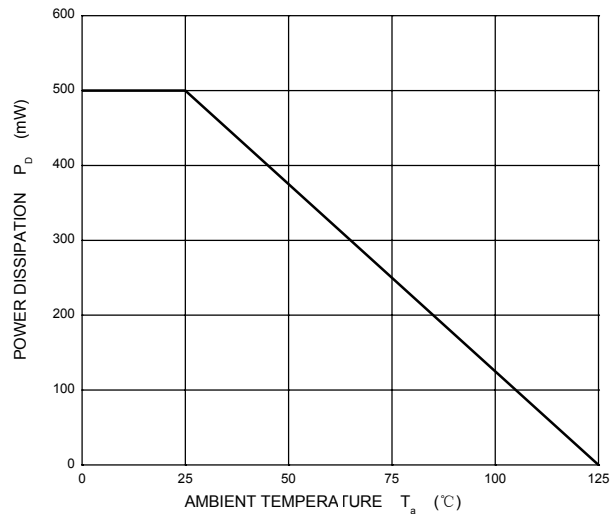
Reverse Characteristics



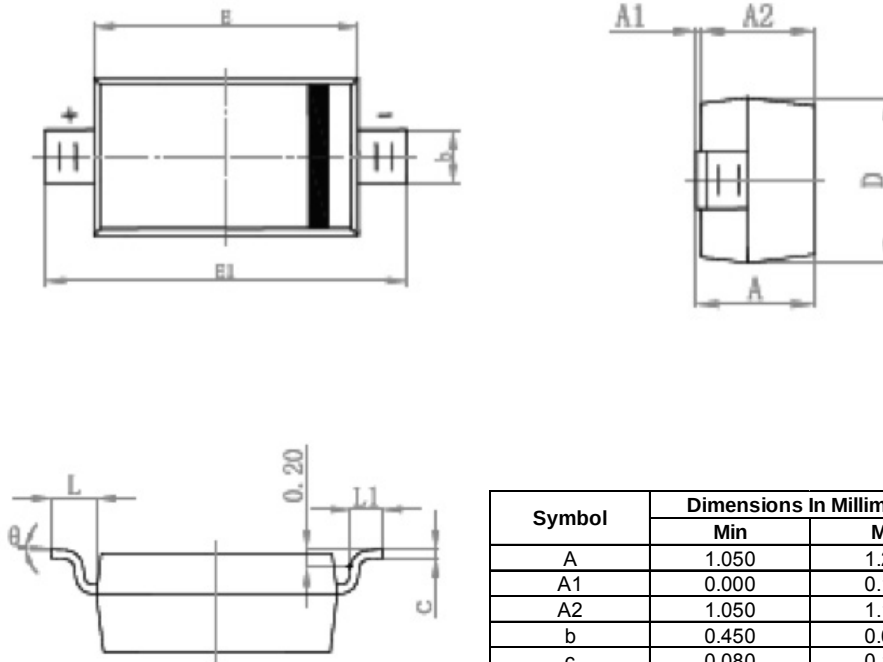
Capacitance Characteristics



Power Derating Curve

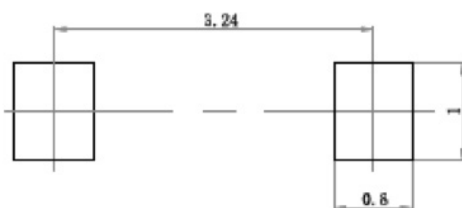


Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.450	0.650	0.018	0.026
c	0.080	0.150	0.003	0.006
D	1.500	1.700	0.059	0.067
E	2.600	2.800	0.102	0.110
E1	3.550	3.850	0.140	0.152
L	0.500 REF		0.020 REF	
L1	0.250	0.450	0.010	0.018
θ	0°	8°	0°	8°

Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

Marking and Ordering Information

Device	Package	Carrier	Quantity	Marking
GSBAT46W	SOD-123	Tape & Reel	3,000pcs / Reel	S9