

**Features**

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



SOD-123



**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	$^{\circ}\text{C}/\text{W}$
Junction Temperature	$T_J$	125	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55 to +150	$^{\circ}\text{C}$

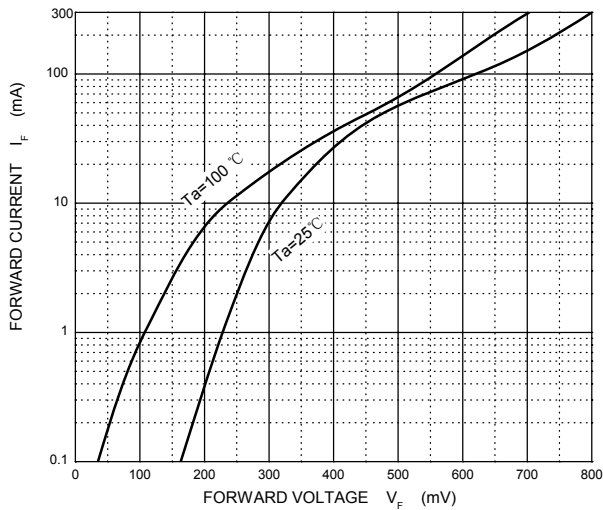
**Electrical Characteristics** ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

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	$\mu\text{A}$
		$V_{R2} = 10\text{V}$	-	-	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	-	

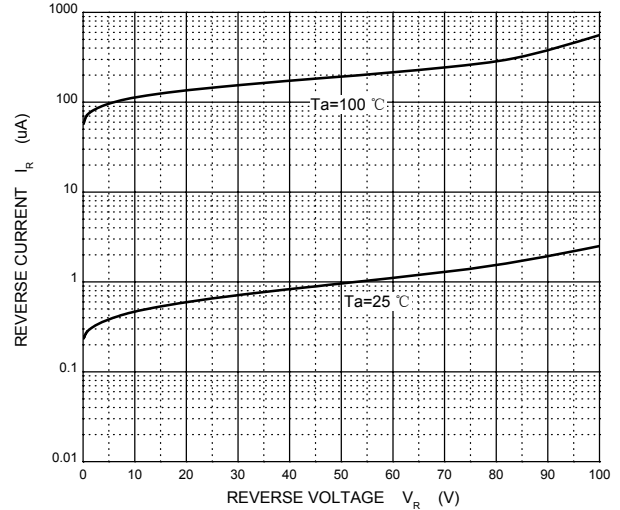
Notes: 1. Part mounted on FR-4 board with recommended pad layout.  
 2. Short duration pulse test used to minimize self-heating effect.

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

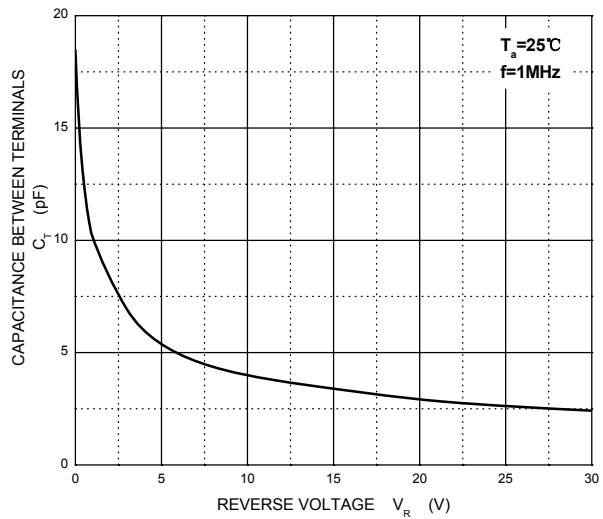
**Forward Characteristics**



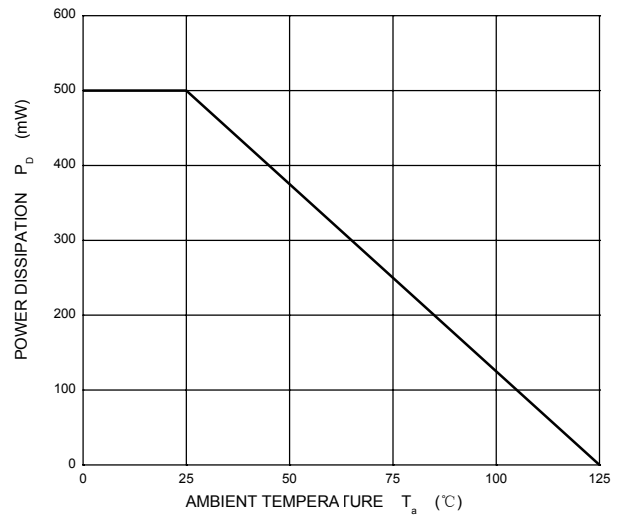
**Reverse Characteristics**



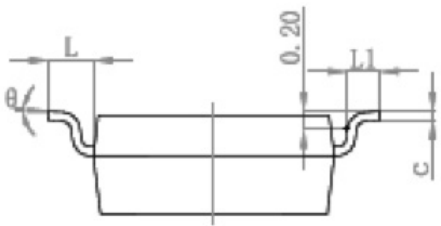
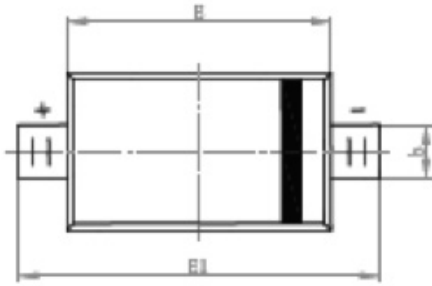
**Capacitance Characteristics**



**Power Derating Curve**

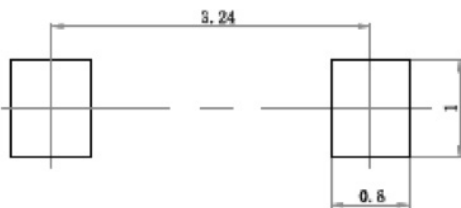


**Package Outline Dimensions**



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: ± 0.05mm.
  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