

## Features

- Low forward voltage drop
- High conductance
- Guard ring construction for transient protection



Package: SOD-523



Schematic Diagram

## Absolute Maximum Ratings

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

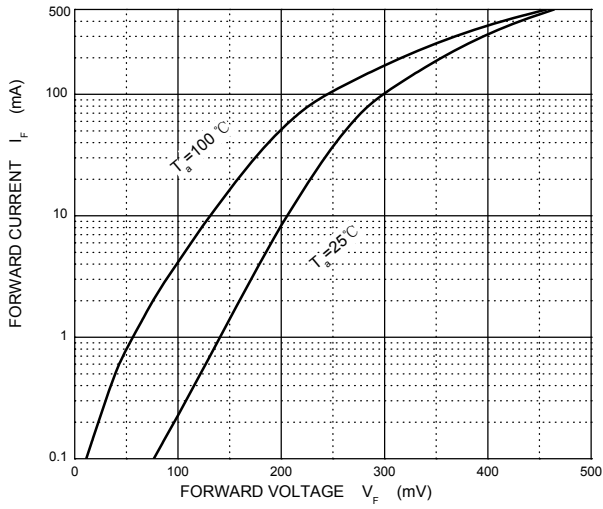
Parameter	Symbol	Value	Unit
Peak Repetitive Peak Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	20	V
RMS Reverse Voltage Reverse Voltage (DC)	$V_{R(RMS)}$	14	V
Average Rectified Output Current	$I_o$	0.5	A
Non-repetitive Peak Forward Surge Current @ $t=8.3\text{ms}$	$I_{FSM}$	5.5	A
Power Dissipation	$P_D$	150	mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	667	$^{\circ}\text{C/W}$
Junction Temperature	$T_J$	125	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55 to +150	$^{\circ}\text{C}$

## Electrical Characteristics

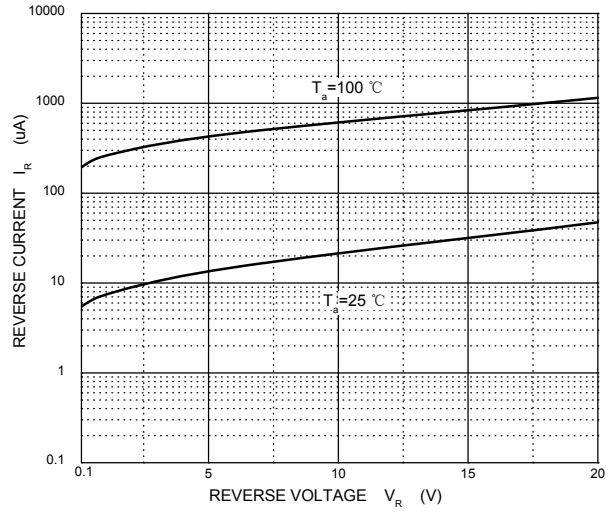
( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

Parameter	Conditions	Symbol	Min	Max	Unit
Minimum Reverse Breakdown Voltage	$I_R=250\mu\text{A}$	$V(\text{BR})$	20	-	V
Forward Voltage	$I_F=0.1\text{mA}$	VF1	-	180	mV
	$I_F=1\text{mA}$	VF2	-	240	mV
	$I_F=10\text{mA}$	VF3	-	290	mV
	$I_F=100\text{mA}$	VF4	-	380	mV
	$I_F=500\text{mA}$	VF5	-	600	mV
Reverse Current	$V_R=10\text{V}$	IR	-	50	$\mu\text{A}$
Capacitance Between Terminals	$V_R=1\text{V}, f=1\text{MHz}$	CT	-	30	pF

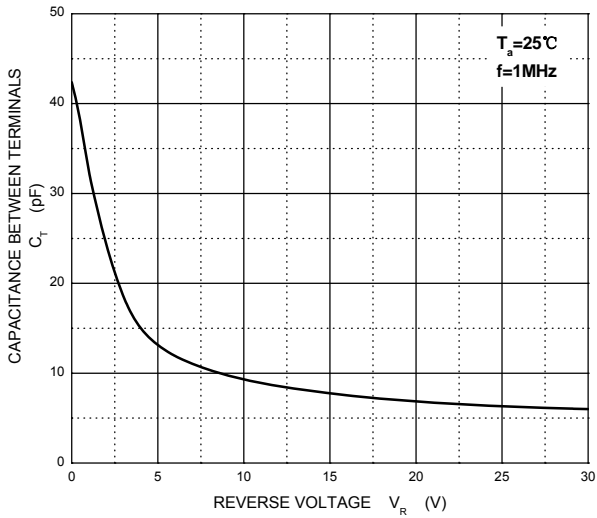
**Typical Electrical Characteristic Curves**



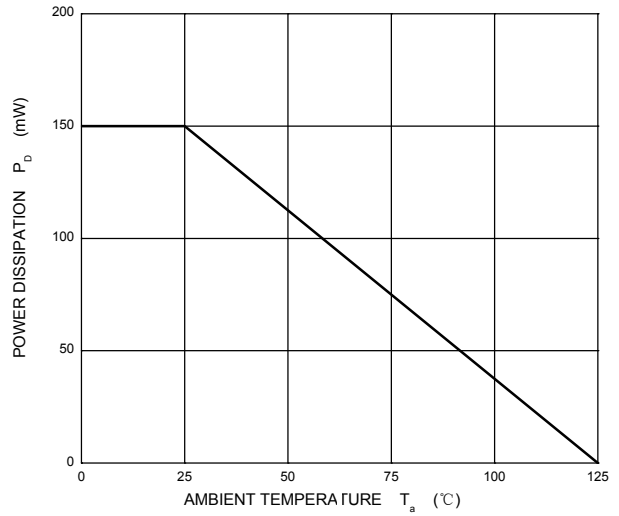
**Figure 1. Forward Characteristics**



**Figure 2. Reverse Characteristics**



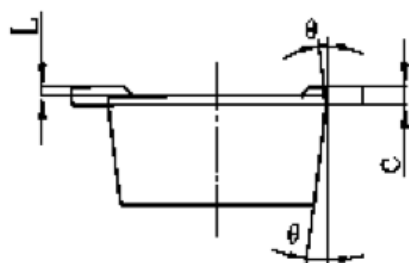
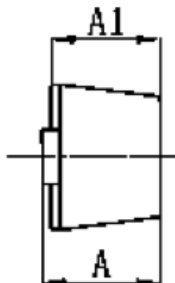
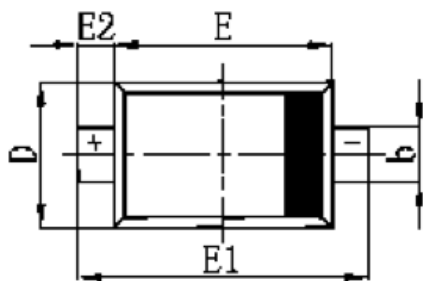
**Figure 3. Capacitance Characteristics**



**Figure 4. Power Derating Curve**

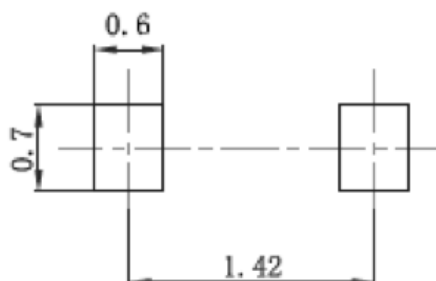
**Package Outline Dimensions**

**SOD-523**



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.510	0.770	0.020	0.031
A1	0.500	0.700	0.020	0.028
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	0.750	0.850	0.030	0.033
E	1.100	1.300	0.043	0.051
E1	1.500	1.700	0.059	0.067
E2	0.200 REF		0.008 REF	
L	0.010	0.070	0.001	0.003
θ	7° REF		7° REF	

**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
GSB0520SD	SOD-523	Tape & Reel	8,000pcs / Reel	SD