

Features

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



Package: SOD-523



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	$^\circ\text{C}$



Schematic Diagram

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	$I_F=0.1\text{mA}$	V_{F1}	-	180	mV
	$I_F=1\text{mA}$	V_{F2}	-	240	mV
	$I_F=10\text{mA}$	V_{F3}	-	290	mV
	$I_F=100\text{mA}$	V_{F4}	-	380	mV
	$I_F=500\text{mA}$	V_{F5}	-	600	mV
Reverse Current	$V_R=10\text{V}$	I_R	-	50	μA
Capacitance Between Terminals	$V_R=1\text{V}, f=1\text{MHz}$	C_T	-	30	pF

Typical Electrical Characteristic Curves

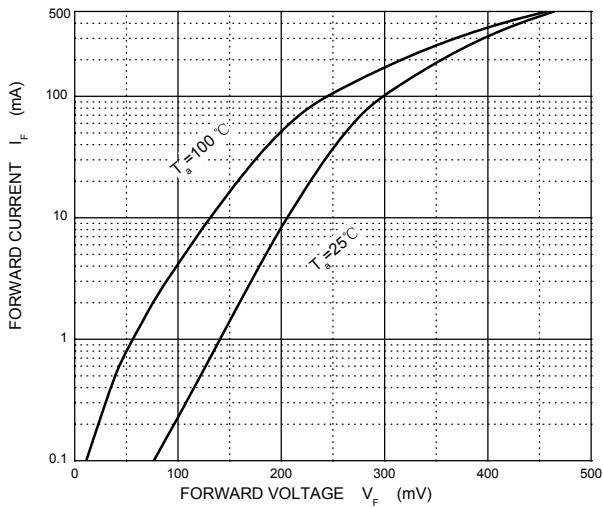


Figure 1. Forward Characteristics

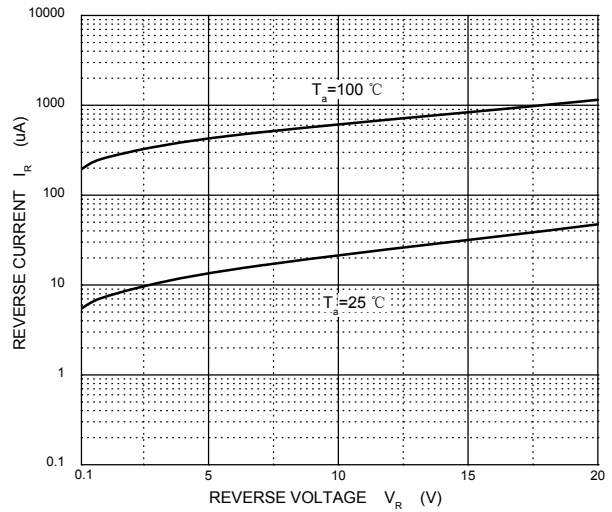


Figure 2. Reverse Characteristics

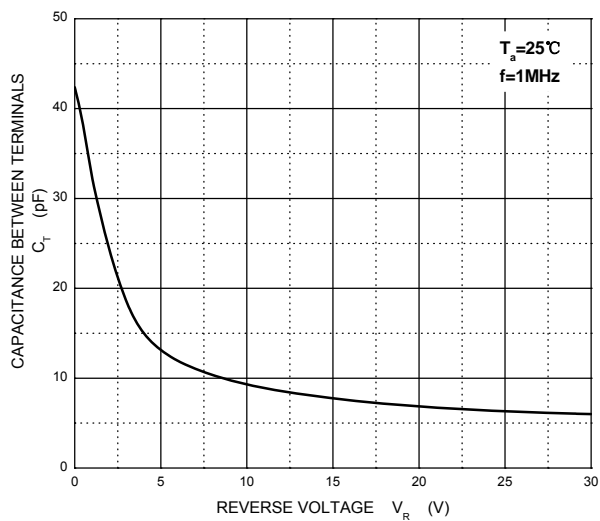


Figure 3. Capacitance Characteristics

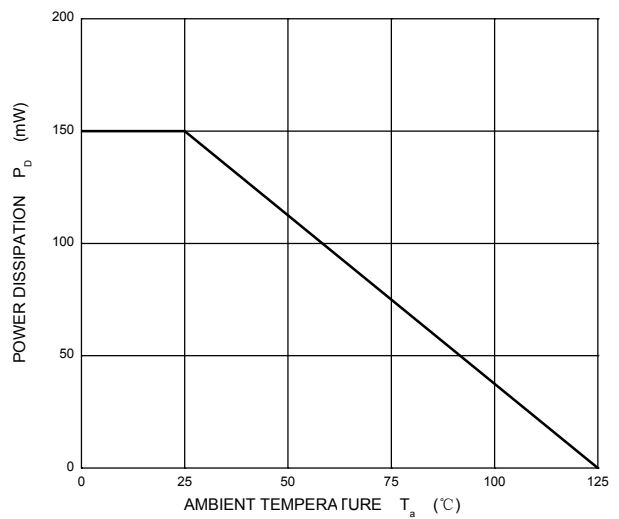
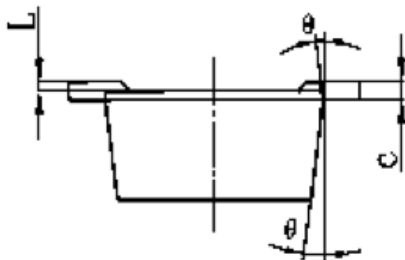
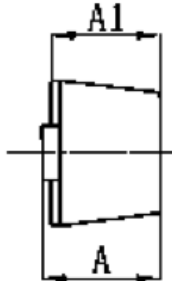
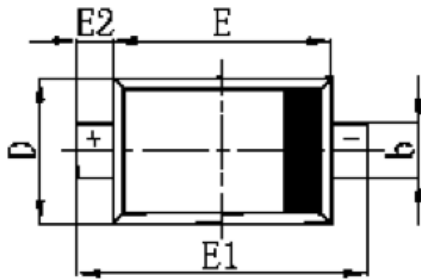


Figure 4. Power Derating Curve

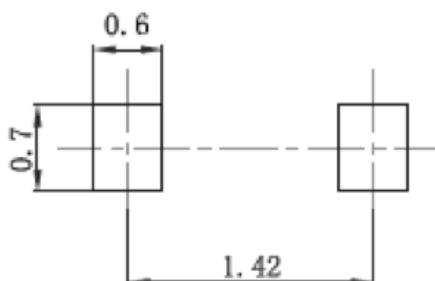
Package Outline Dimensions

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: ± 0.05 mm.
3. The pad layout is for reference purposes only.

Marking and Ordering Information

Device	Package	Carrier	Quantity	Marking
SPB0520SD	SOD-523	Tape & Reel	8,000pcs / Reel	SD