

SOD-523 Fast Switching Diodes

Features

- Fast Switching Device ($T_{RR} < 4\text{nS}$)
- Power Dissipation of 150mW
- High Stability and High Reliability
- Low reverse leakage

Applications

Small signal switching
Ultra high speed switching application

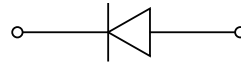
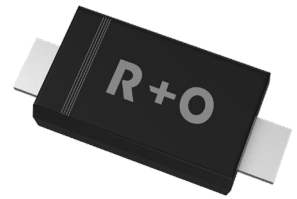
Mechanical Data

- Case: SOD-523
Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Cathode line denotes the cathode end

Function Diagram

Reverse Voltage
80 V
Forward Current
0.1 Ampere

SOD-523



Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Non-Repetitive Peak Reverse Voltage	V_{RM}	V	90
Maximum repetitive peak reverse voltage	V_{RRM}	V	80
Maximum RMS Voltage	V_{RMS}	V	80
Reverse Breakdown voltage @ $I_R=100\mu\text{A}$	$V_{(BR)R}$	V	80
Maximum Average Forward Rectified Current	$I_{F(AV)}$	mA	100
Forward Continuous Current	I_{FM}	mA	225
Non-repetitive Peak Forward Surge Current @ $t=8.3\text{ms}$ Half-sine wave	I_{FSM}	A	2.0
Power Dissipation	P_d	mW	150
Storage temperature	T_{stg}	°C	-55 ~ +150
Junction temperature	T_j	°C	150
Typical thermal resistance	$R_{\theta J-A}$	°C /W	833

● **Electrical Characteristics** (Ta=25°C Unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	Min	Type	Max
Maximum instantaneous forward voltage	I _F =100mA	V _F	V	—	—	1.2
Reverse Leakage Current	V _R =80V	I _R	μA	—	—	0.1
Total capacitance	V _R =0V,f=1MHz	C _T	pF	—	—	3.0
Maximum reverse recovery time	I _F =10mA, V _R =6V, I _{rr} =0.1×I _R , R _L =100Ω	T _{rr}	ns	—	—	4.0

● **Ratings And Characteristics Curves** (Ta=25°C Unless otherwise specified)

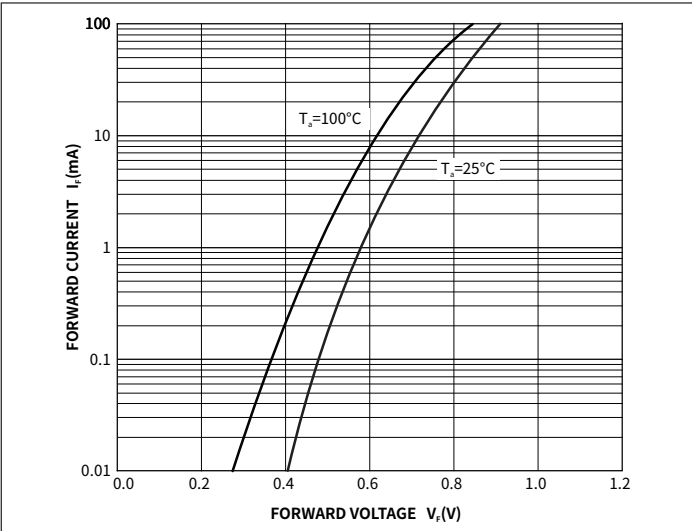


Fig.1 Typical Instantaneous Forward Characteristics

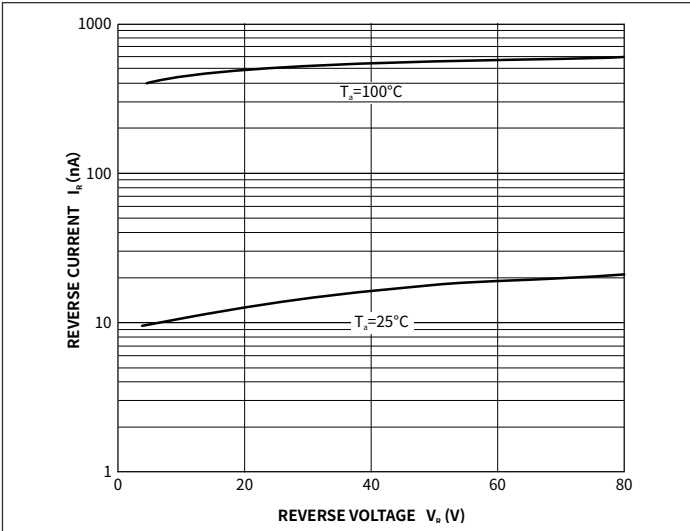


Fig.2 Typical Reverse Characteristics

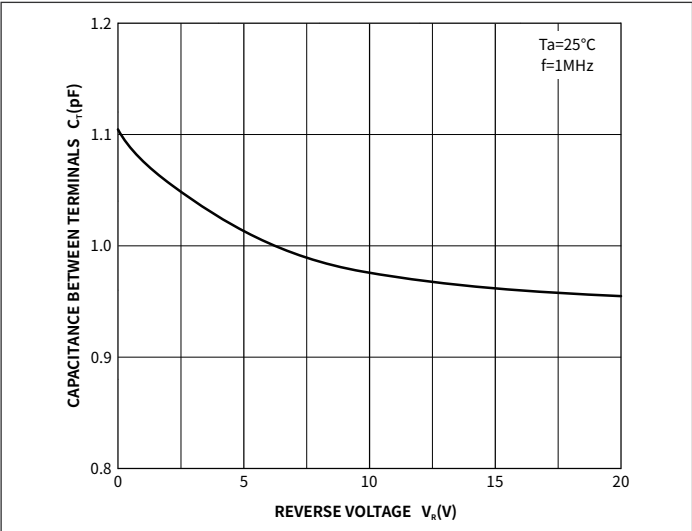


Fig.3 Typical Junction Capacitance

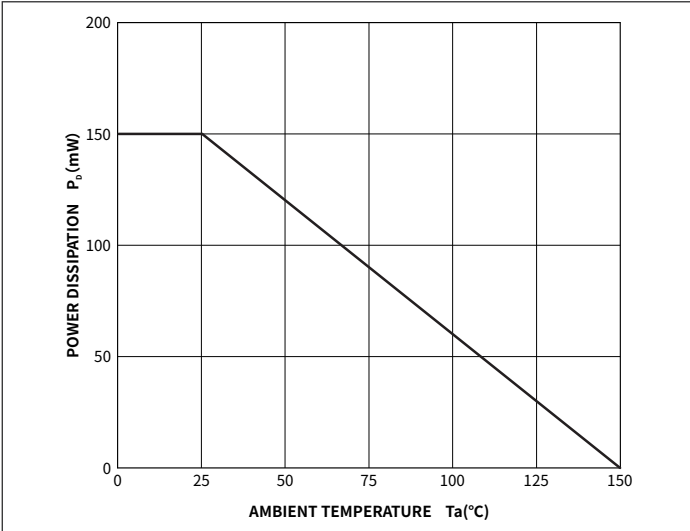


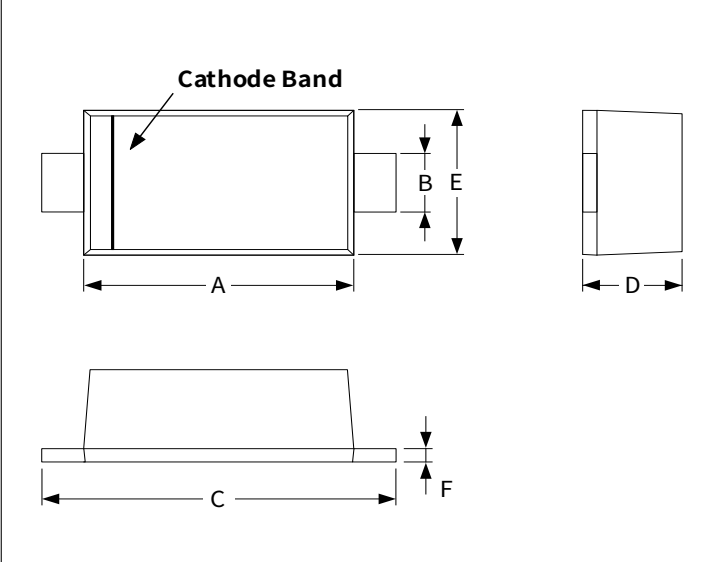
Fig.4 Power Derating Curve

● Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOD-523	R1	0.002	3000	45000	180000	7"

● Package Outline Dimensions (SOD-523)

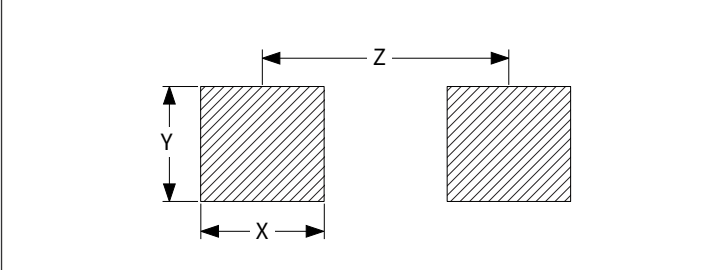
Symbol	Dimensions			
	Millimeters		Inches	
	Min	Max	Min	Max
A	1.10	1.30	0.043	0.051
B	0.500	0.700	0.020	0.028
C	0.250	0.350	0.010	0.014
D	0.080	0.150	0.003	0.006
E	0.750	0.850	0.030	0.033
F	1.100	1.300	0.043	0.051



The diagram shows three views of the SOD-523 package: a top view, a side view, and a bottom view. The top view shows dimensions A (width), B (height), and C (width of the cathode band). The side view shows dimensions D (thickness) and E (height). The bottom view shows dimensions F (width) and G (height). A label 'Cathode Band' points to the band on the top view.

● Suggested Pad Layout

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
X	0.55	0.65	0.022	0.026
Y	1.05	1.15	0.041	0.045
Z	0.75	0.85	0.030	0.033



The diagram shows a suggested pad layout for the SOD-523 package. It includes a top view of the package with dimensions X (width), Y (height), and Z (width of the cathode band). The pads are shown as shaded areas.