

SOD-123 Surface Mount Schottky Barrier Rectifier

● Features

- $V_R=30V$
- $I_{F(AV)}=0.2A$
- Power Dissipation of 500mW
- High Current Capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

Reverse Voltage

30 V

Forward Current

0.2 Ampere

● Applications

For use in low voltage high frequency circuit signals.

● Mechanical Data

- Case: SOD-123
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



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

PARAMETER	SYMBOL	UNIT	VALUE
Maximum repetitive peak reverse voltage	V_{RRM}	V	30
Maximum RMS voltage	V_{RMS}	V	21
Maximum DC blocking voltage	V_{DC}	V	30
Maximum Average Forward Rectified Current	$I_{F(AV)}$	mA	200
Repetitive peak forward current	I_{FRM}	mA	300
Non-repetitive Peak Forward Surge Current @t=8.3ms Half-sine wave	I_{FSM}	mA	600
Power Dissipation	P_D	mW	500
Junction temperature	T_j	°C	-55-+150
Storage temperature range	T_{STG}	°C	-55-+150
Typical thermal resistance	$R_{\theta J-A}$	°C /W	250

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

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	Min	Type	Max
Maximum forward voltage	I _F = 0.1mA	V _F	mV	—	—	240
	I _F = 1.0mA			—	—	320
	I _F = 10mA			—	—	400
	I _F = 30mA			—	—	500
	I _F = 100mA			—	—	800
Maximum reverse current	V _R =25V	I _R	uA	—	—	2.0
Capacitance between terminals	V _R = 1.0V, f = 1MHz	C _T	pF	—	—	10

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

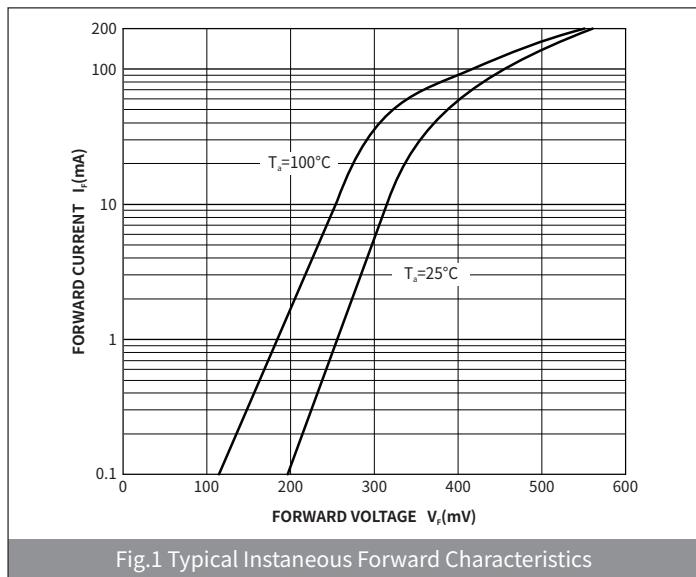


Fig.1 Typical Instantaneous Forward Characteristics

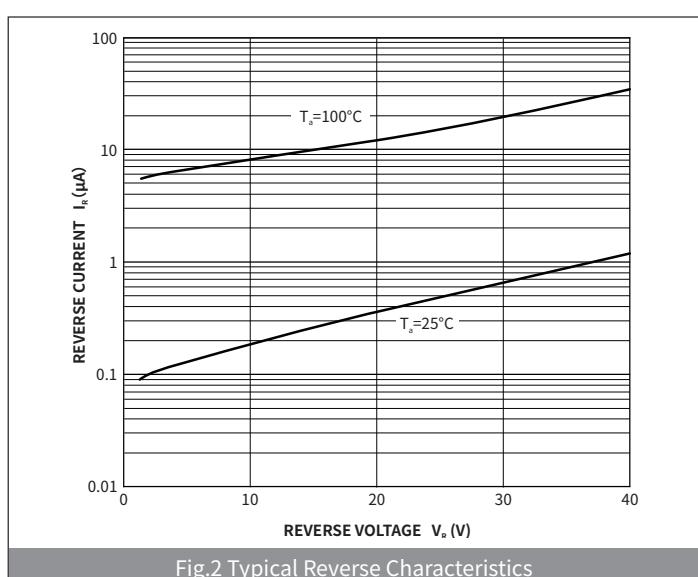


Fig.2 Typical Reverse Characteristics

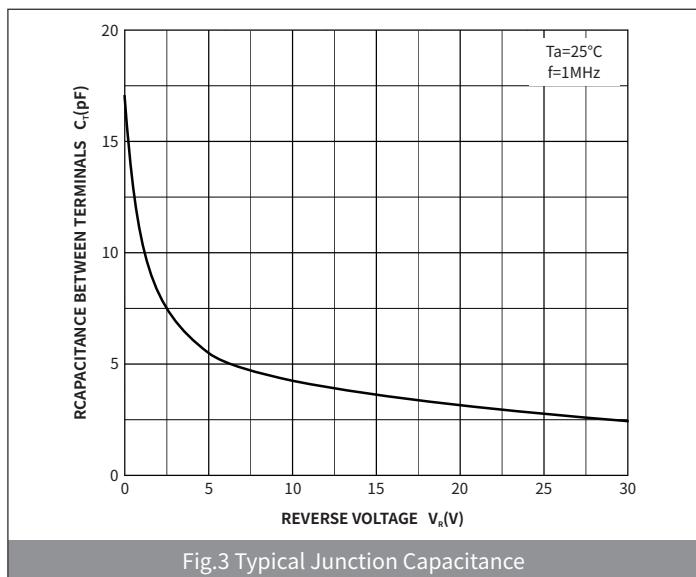


Fig.3 Typical Junction Capacitance

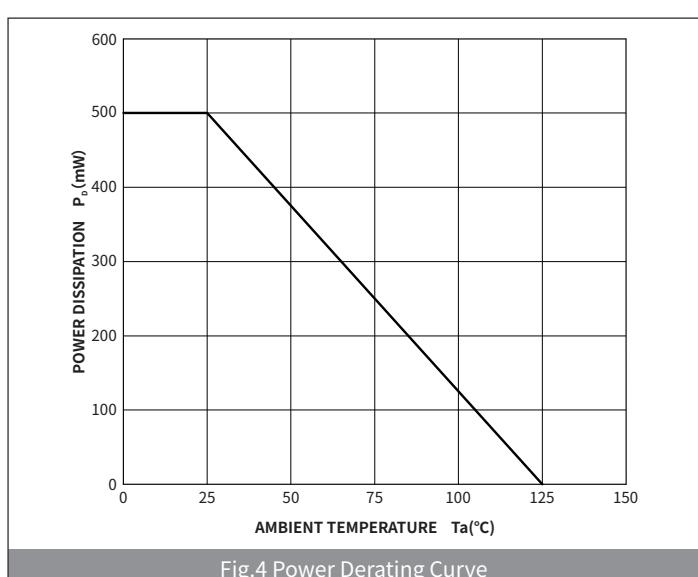
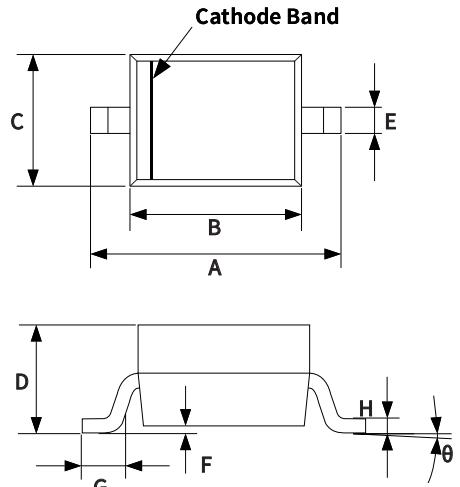


Fig.4 Power Derating Curve

● Ordering Information

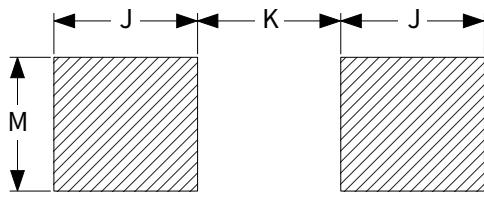
PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOD-123	R1	0.012	3000	45000	180000	7"

● Package Outline Dimensions (SOD-123)



The diagram illustrates the physical dimensions of the SOD-123 package. The top view shows the overall width (A), height (C), cathode band position (E), and lead spacing (B). The side cross-section shows the lead thickness (F), lead height (D), lead pitch (G), lead angle (θ), and lead clearance (H).

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.55	3.85	0.140	0.152
B	2.55	2.85	0.100	0.112
C	1.40	1.80	0.055	0.071
D	0.95	1.35	0.140	0.152
E	0.51	0.71	0.037	0.053
F	-	0.15	-	0.006
G	0.15	0.45	0.006	0.008
H	0.08	0.25	0.003	0.010
θ	-	8°	-	8°



The diagram shows two leads of the SOD-123 package. Lead J is the distance from the left edge of the package to the center of the lead. Lead K is the distance between the centers of the two leads. Lead M is the total width of the package, including the leads and the central body.

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	0.91	-	0.036	-
K	-	2.36	-	0.092
M	1.22	-	0.048	-