

SOD-123 Surface Mount Schottky Barrier Rectifier

Features

- $V_R=100V$
- $I_{F(AV)}=0.15A$
- Power Dissipation of 500mW
- High Current Capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

Applications

For use in low voltage high frequency circuit signals.

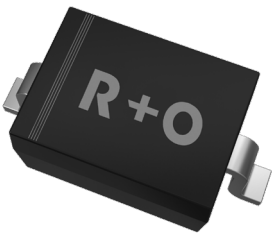
Mechanical Data

- 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

Reverse Voltage
100 V
Forward Current
0.15 Ampere

SOD-123



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

PARAMETER	SYMBOL	UNIT	VALUE
Maximum repetitive peak reverse voltage	V_{RRM}	V	100
Maximum RMS voltage	V_{RMS}	V	70
Maximum DC blocking voltage	V_{DC}	V	100
Maximum Average Forward Rectified Current	$I_{F(AV)}$	mA	150
Repetitive peak forward current	I_{FRM}	mA	350
Non-repetitive Peak Forward Surge Current @t=8.3ms Half-sine wave	I_{FSM}	mA	750
Power Dissipation	P_D	mW	500
Junction temperature	T_j	°C	125
Storage temperature range	T_{STG}	°C	-55~+150
Typical thermal resistance	$R_{\theta J-A}$	°C /W	200

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

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	Min	Type	Max
Maximum forward voltage	$I_F = 0.1\text{mA}$	V_F	mV	—	—	250
	$I_F = 10\text{mA}$			—	—	450
	$I_F = 250\text{mA}$			—	—	1000
Maximum reverse current	$V_R = 1.5\text{V}$	I_R	μA	—	—	0.3
	$V_R = 10\text{V}$			—	—	0.5
	$V_R = 50\text{V}$			—	—	1.0
	$V_R = 75\text{V}$			—	—	2.0
Capacitance between terminals	$V_R = 0\text{V}, f = 1\text{MHz}$	C_T	pF	—	20	—
	$V_R = 1.0\text{V}, f = 1\text{MHz}$			—	12	—

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

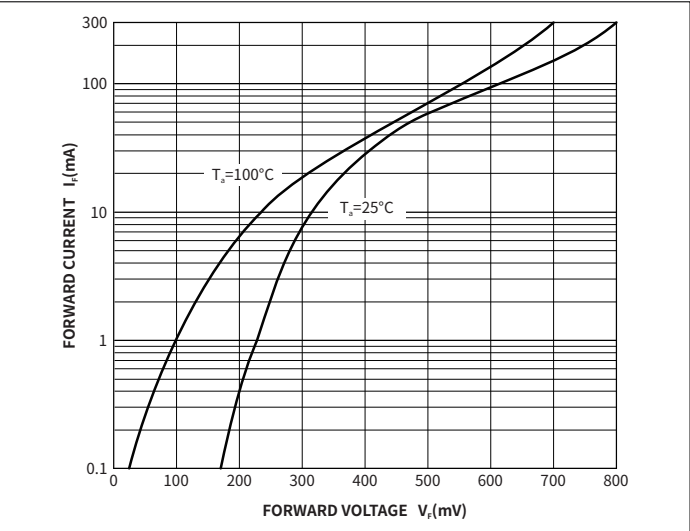


Fig.1 Typical Instantaneous Forward Characteristics

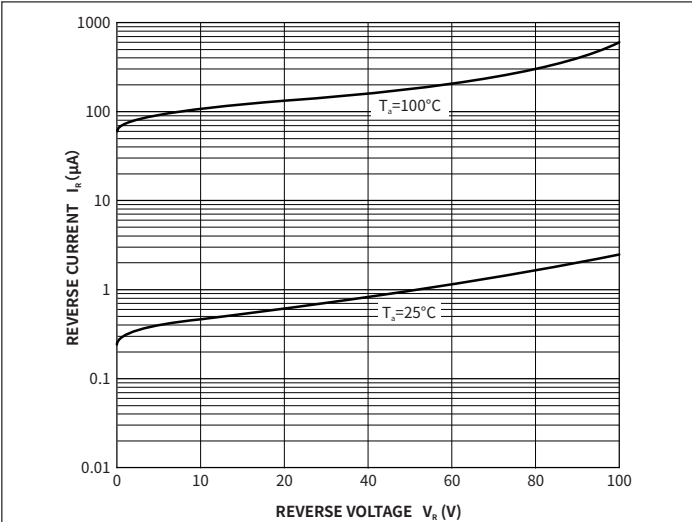


Fig.2 Typical Reverse Characteristics

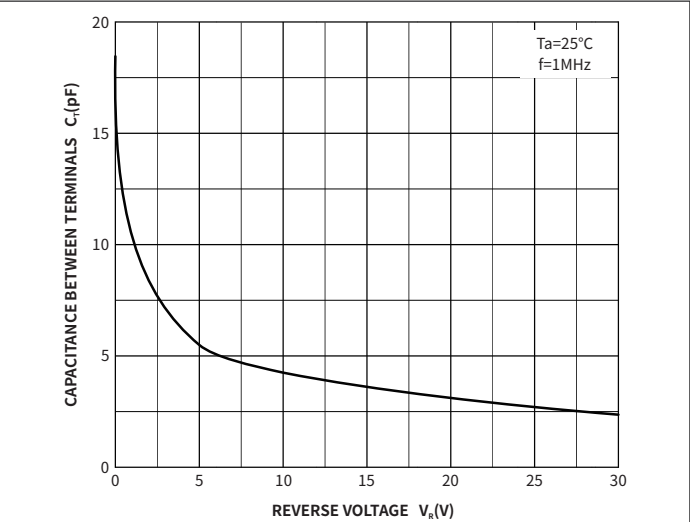


Fig.3 Typical Junction Capacitance

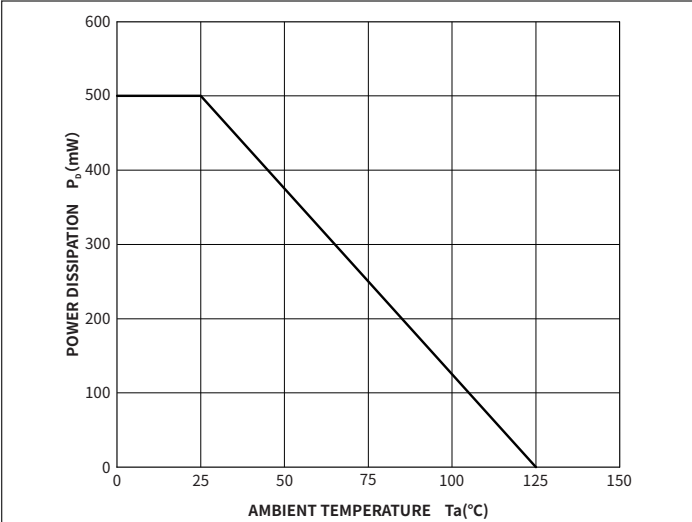


Fig.4 Power Derating Curve

BAT46W

SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

● 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)

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°

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