

SOD-123 Fast Switching Diodes

Features

- Fast Switching Device ($T_{RR} < 4\text{nS}$)
- Power Dissipation of 400mW
- High Stability and High Reliability
- Low reverse leakage

Applications

Small signal switching
Ultra high speed switching application

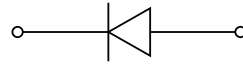
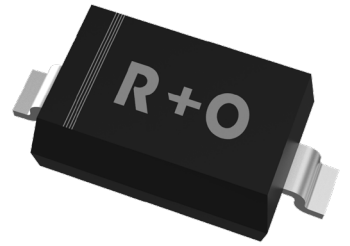
Mechanical Data

- 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



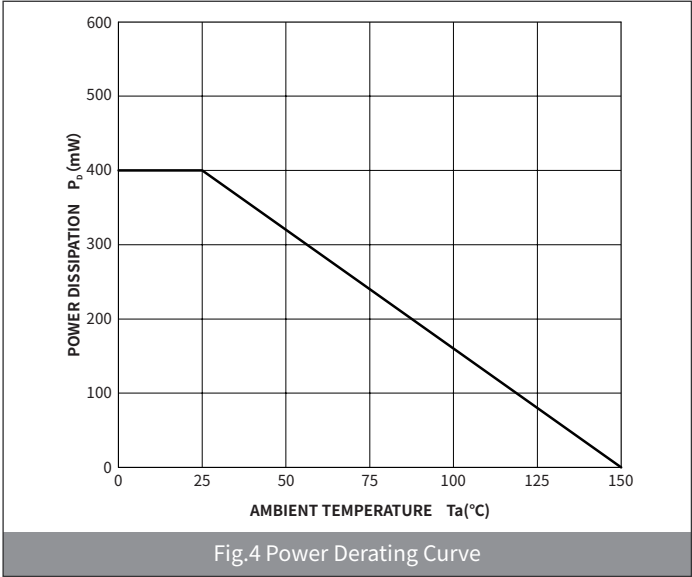
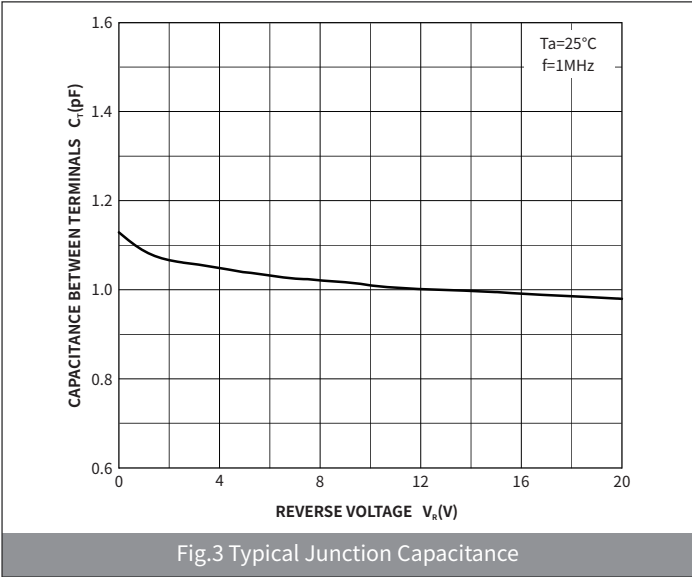
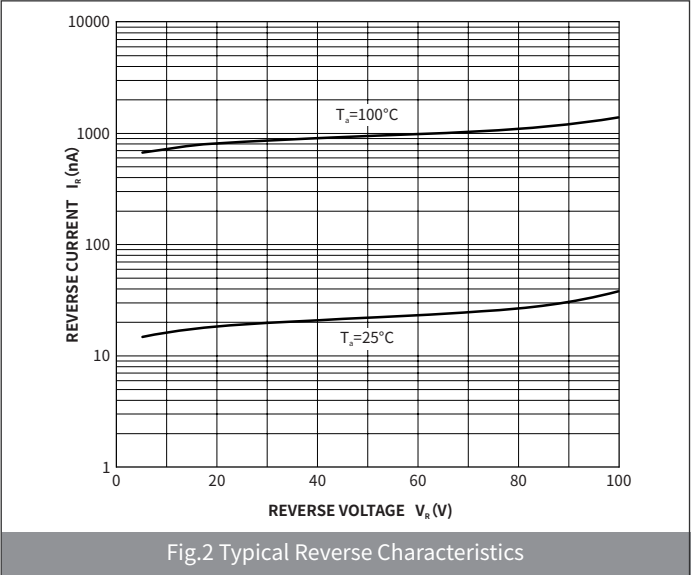
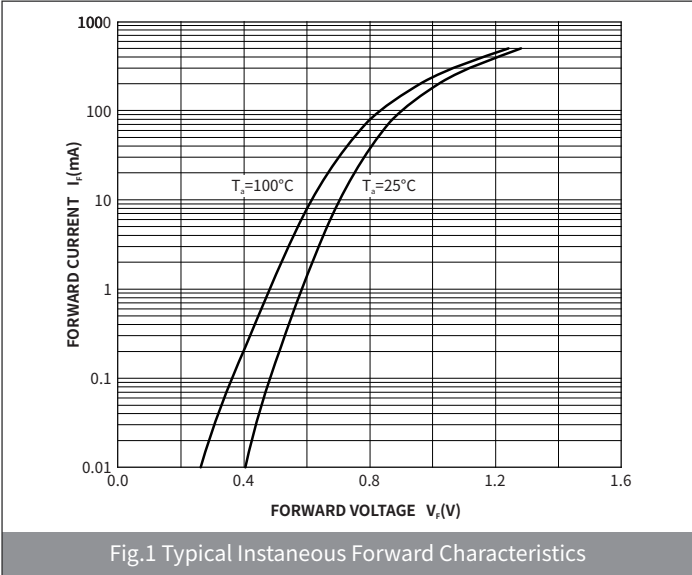
Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Maximum repetitive peak reverse voltage	V_{RRM}	V	100
Maximum RMS Voltage	V_{RMS}	V	75
Reverse Breakdown voltage @ $I_R=100\mu\text{A}$	$V_{(BR)R}$	V	100
Maximum Average Forward Rectified Current	$I_{F(AV)}$	mA	150
Repetitive peak forward current	I_{FRM}	mA	300
Non-Repetitive Peak forward surge current @ $t_p=1\mu\text{s}$	I_{FSM}	A	2.0
Non-Repetitive Peak forward surge current @ $t_p=1\text{s}$			0.5
Power Dissipation	P_d	mW	400
Storage temperature	T_{stg}	°C	-55 ~ +150
Junction temperature	T_j	°C	-55 ~ +150
Typical thermal resistance	$R_{\theta J-A}$	°C /W	315

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

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	Min	Type	Max
Maximum instantaneous forward voltage	$I_F=1.0\text{mA}$	V_F	V	—	—	0.715
	$I_F=10\text{mA}$			—	—	0.855
	$I_F=50\text{mA}$			—	—	1.0
	$I_F=150\text{mA}$			—	—	1.25
Reverse Leakage Current	$V_R=20\text{V}$	I_{R1}	nA	—	—	25
	$V_R=75\text{V}$	I_{R2}	μA	—	—	1.0
Total capacitance	$V_R=0\text{V}, f=1\text{MHz}$	C_T	pF	—	—	4.0
Maximum reverse recovery time	$I_F=I_R=10\text{mA}, I_{rr}=0.1\times I_R, R_L=100\Omega$	T_{rr}	ns	—	—	4.0

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



● 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 (SOT-23)

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°

● Suggested Pad Layout

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