

## SOD-123 Fast Swithching Diodes

### Features

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

**Reverse Voltage**

100 V

**Forward Current**

0.15 Ampere

### Applications

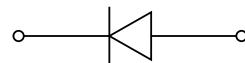
Small signal switching

Ultra high speed switching application

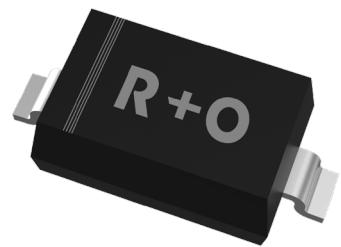
### Mechanical Data

- 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



**SOD-123**



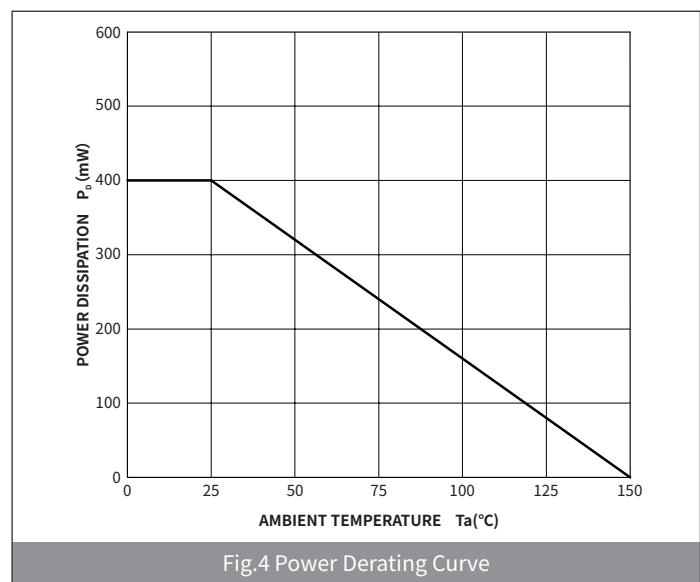
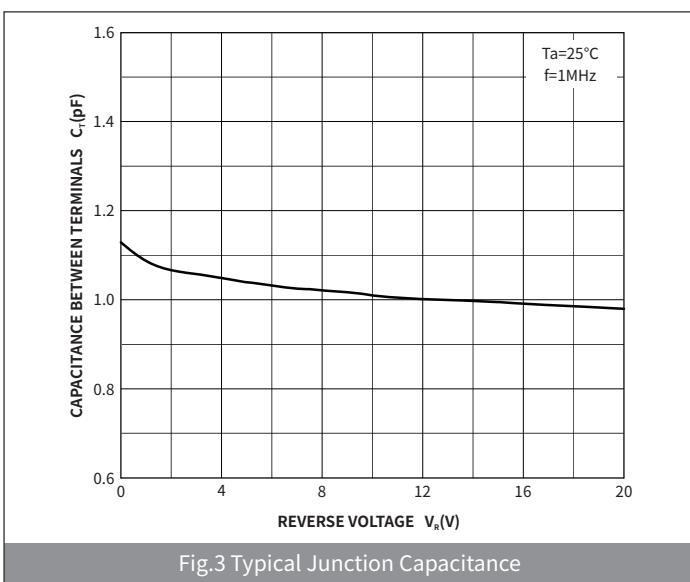
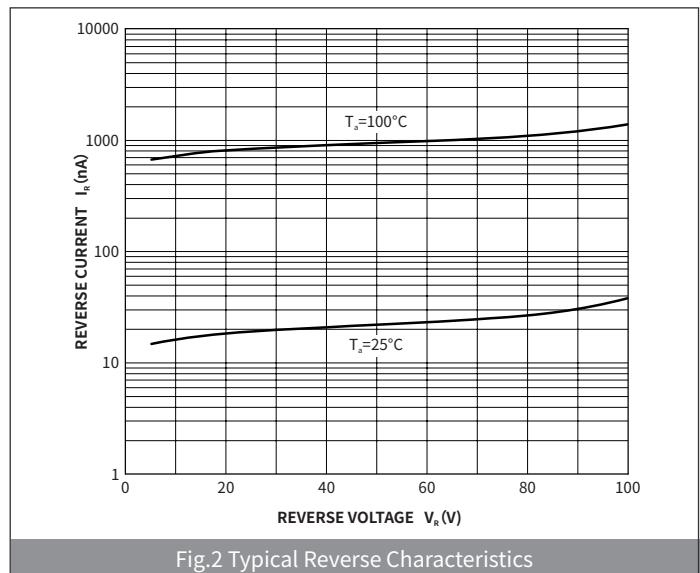
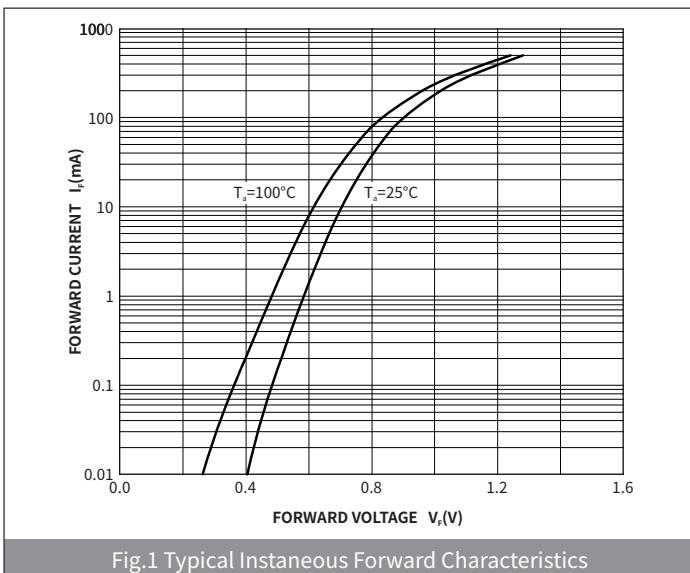
### Maximum Ratings (Ta=25°C Unless otherwise specified)

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 @tp=1μs	$I_{FSM}$	A	2.0
Non-Repetitive Peak forward surge current @tp=1s			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 <sub>F</sub> =1.0mA	V <sub>F</sub>	V	—	—	0.715
	I <sub>F</sub> =10mA			—	—	0.855
	I <sub>F</sub> =50mA			—	—	1.0
	I <sub>F</sub> =150mA			—	—	1.25
Reverse Leakage Current	V <sub>R</sub> =20V	I <sub>R1</sub>	nA	—	—	25
	V <sub>R</sub> =75V	I <sub>R2</sub>	μA	—	—	1.0
Total capacitance	V <sub>R</sub> =0V,f=1MHz	C <sub>T</sub>	pF	—	—	4.0
Maximum reverse recovery time	I <sub>F</sub> =I <sub>R</sub> =10mA,I <sub>rr</sub> =0.1×I <sub>R</sub> , R <sub>L</sub> =100Ω	T <sub>rr</sub>	ns	—	—	4.0

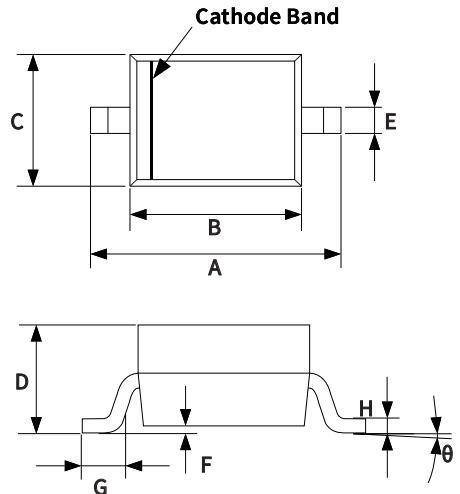
● **Ratings And Characteristics Curves** (Ta=25°C Unless otherwise specified)



### ● 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"

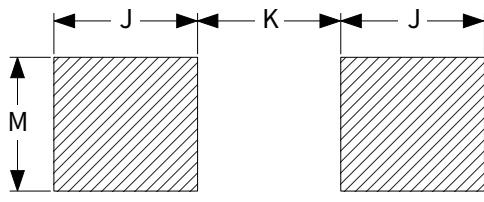
### ● Package Outline Dimensions (SOT-23)



The diagram illustrates the SOT-23 package outline with two views: a top view showing the cathode band and side view showing lead profile. Dimensions labeled include:  
- Top View: A (Total width), B (Width of body), C (Total height), D (Lead thickness), E (Lead spacing), F (Lead pitch), G (Lead length), H (Lead height).  
- Side View: θ (Lead angle).

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



The diagram shows a suggested pad layout for surface-mounting. Two pads are shown, each with a hatched central area and a larger outer area. Dimensions labeled are:  
- J (Pad width), K (Pad spacing), M (Pad height).

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

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