

SCHOTTKY BARRIER DIODE

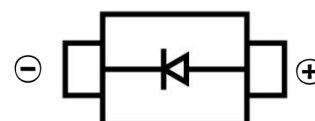
FEATURES

- Low Forward Voltage
- High frequency inverters
- Small Surface Mount device
- PN Junction Guard Ring for Transient and ESD Protection
- Low Capacitance

SOD-123

MECHANICAL DATA

- Case: SOD-123
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.005 grams (approximate)



MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Reverse Voltage	V_R	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	28	V
Forward Current	I_F	1	A
Non-Repetitive Peak Forward Surge Current @ $t = 8.3 \text{ ms}$	I_{FSM}	9	A
Power Dissipation	P_D	500	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	200	$^\circ\text{C/W}$
Junction Temperature	T_J	125	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 ~+150	$^\circ\text{C}$

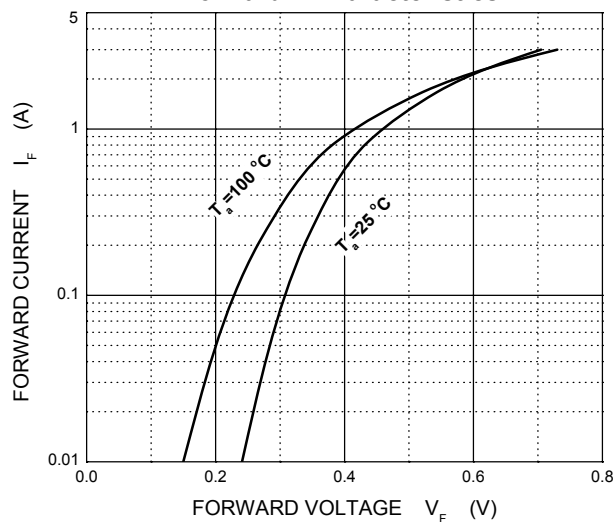
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Forward voltage	V_F			0.60	V	$I_F=1\text{A}$
				0.90		$I_F=3\text{A}$
Reverse voltage	V_R	40			V	$I_R=1\text{mA}$
Reverse voltage leakage current	I_R			1	mA	$V_R=40\text{V}$
Diode capacitance	C_D		120		pF	$V_R=4\text{V}, f=1\text{MHz}$

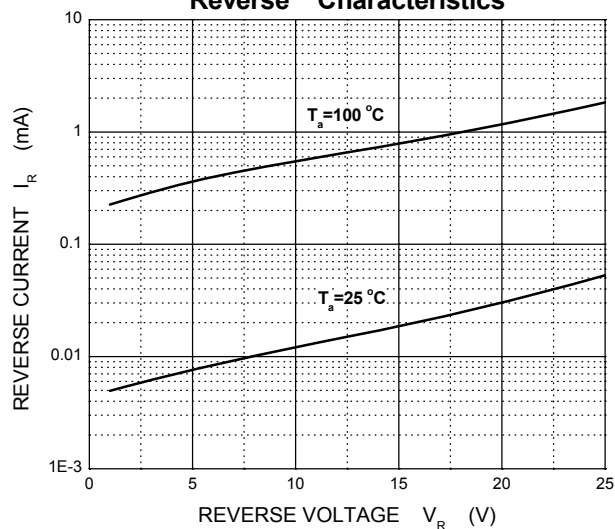
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Typical Characteristics

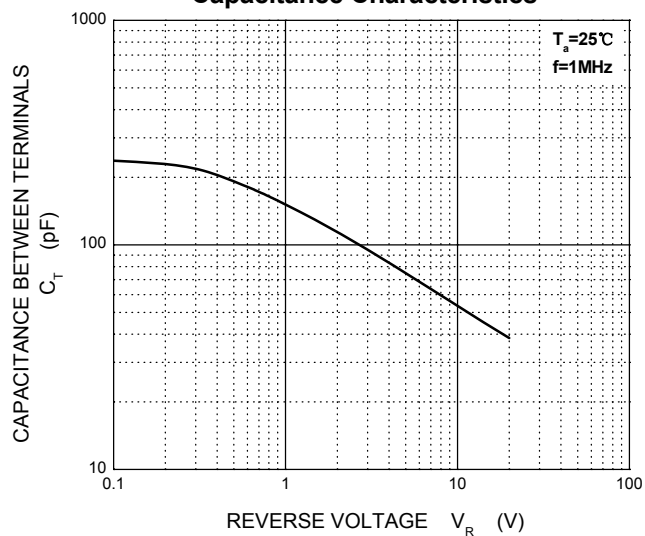
Forward Characteristics



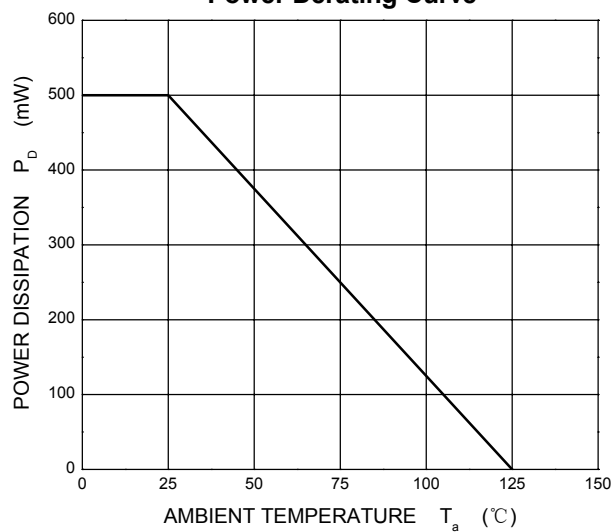
Reverse Characteristics



Capacitance Characteristics

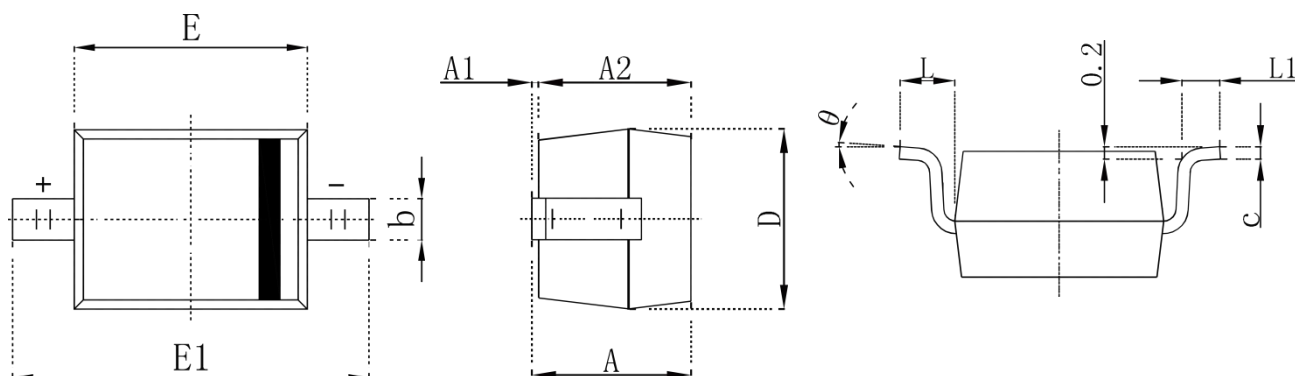


Power Derating Curve



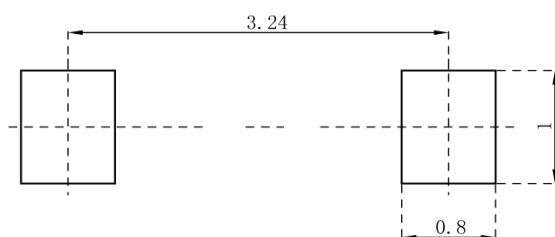
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SOD-123 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.450	0.650	0.018	0.026
c	0.080	0.150	0.003	0.006
D	1.500	1.700	0.059	0.067
E	2.600	2.800	0.102	0.110
E1	3.550	3.850	0.140	0.152
L	0.500REF		0.020 REF	
L1	0.250	0.450	0.010	0.018
θ	0°	8°	0°	8°

SOD-123 Suggested Pad Layout

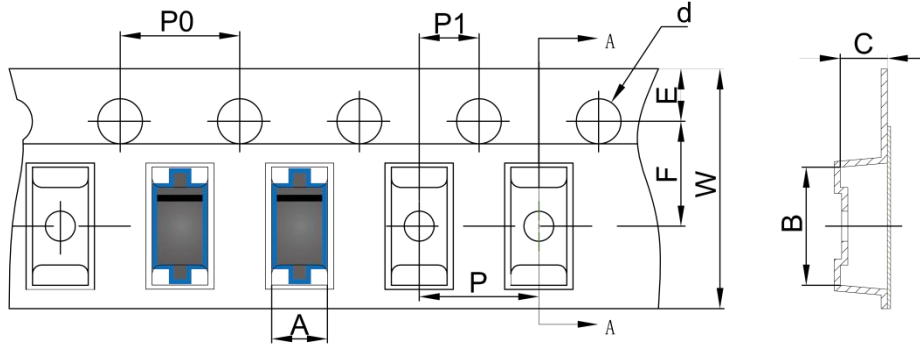


Note:

1. Controlling dimension: in millimeters
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

SOD-123 Tape and Reel

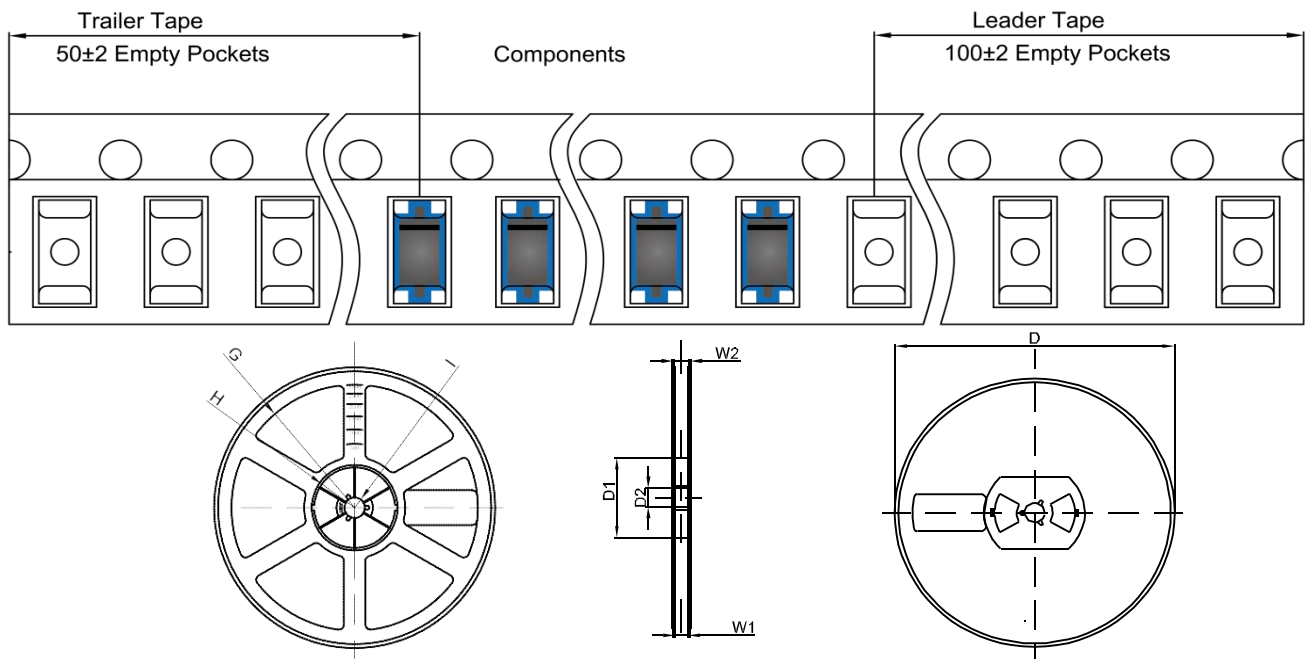
SOD-123 Embossed Carrier Tape



SOD-123 Tape Leader and Trailer

DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SOD-123	1.85	3.95	1.57	Ø1.55	1.75	3.50	4.00	4.00	2.00	8.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

SOD-123 Reel



DIMENSIONS ARE IN MILLIMETER								
REEL OPTION	D	D1	D2	G	H	I	W1	W2
7" DIA	Ø178	54.40	13.00	R78	R25.60	R6.50	9.50	12.30
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1