

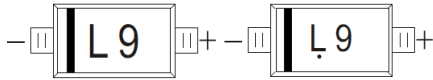
# SOD-123 Plastic-Encapsulate Diodes

## BAT54W SCHOTTKY BARRIER DIODE

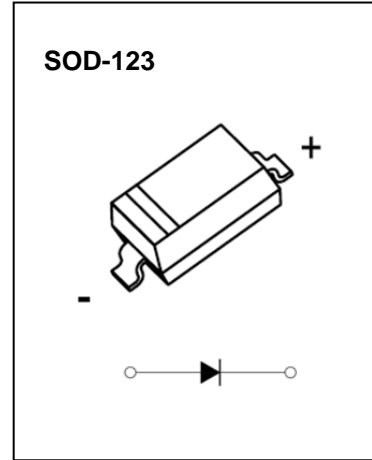
### FEATURES

- Low Forward Voltage Drop
- Fast Switching
- Small Surface Mount Package
- PN Junction Guard Ring for Transient and ESD Protection
- Available in Lead Free Version

### MARKING: L9



The marking bar indicates the cathode  
Solid dot = Green molding compound device, if none,  
the normal device.



### Maximum Ratings @Ta=25°C

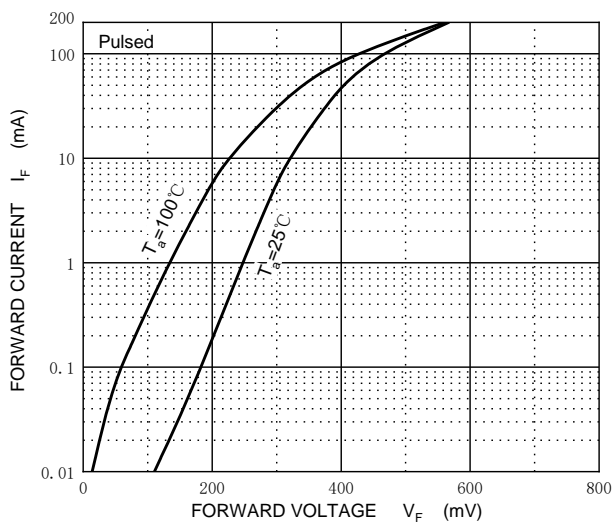
Parameter	Symbol	Limit	Unit
DC blocking voltage	$V_R$	30	V
RMS reverse voltage	$V_{R(RMS)}$	21	V
Average rectified output current	$I_o$	100	mA
Forward continuous current	$I_F$	200	mA
Repetitive peak forward current	$I_{FRM}$	300	mA
Non-repetitive Peak Forward Surge Current @t=8.3ms	$I_{FSM}$	600	mA
Power dissipation	$P_d$	500	mW
Thermal resistance junction to ambient	$R_{\theta JA}$	200	°C/W
Operating Junction Temperature Range	$T_J$	-40 ~ +125	°C
Storage Temperature Range	$T_{STG}$	-55 ~ +150	°C

### Electrical Characteristics @Ta=25°C

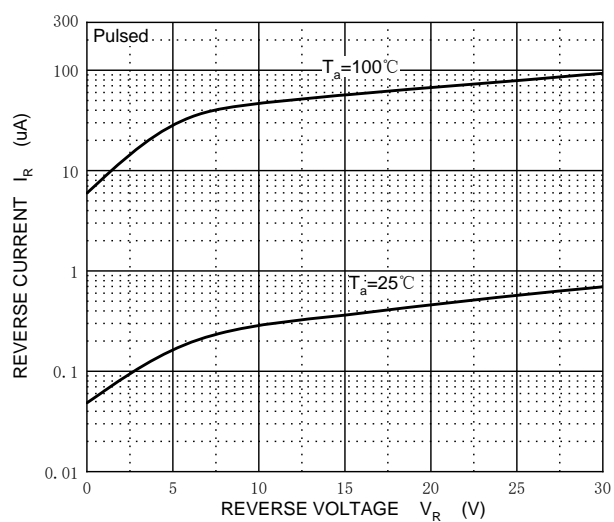
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse breakdown voltage	$V_{(BR)}$	$I_R=100\mu A$	30			V
Forward voltage	$V_{F1}$	$I_F=0.1mA$			240	mV
	$V_{F2}$	$I_F=1.0mA$			320	mV
	$V_{F3}$	$I_F=10mA$			400	mV
	$V_{F4}$	$I_F=30mA$			500	mV
	$V_{F5}$	$I_F=100mA$			1000	mV
Reverse current	$I_R$	$V_R=25V$			2.0	uA
Reverse recovery time	$t_{rr}$	$I_F=10mA, I_R=10mA$ to 1mA , $R_L=100\Omega$			5.0	ns
Capacitance between terminals	$C_T$	$V_R=1V, f=1MHz$			10	pF

# Typical Characteristics

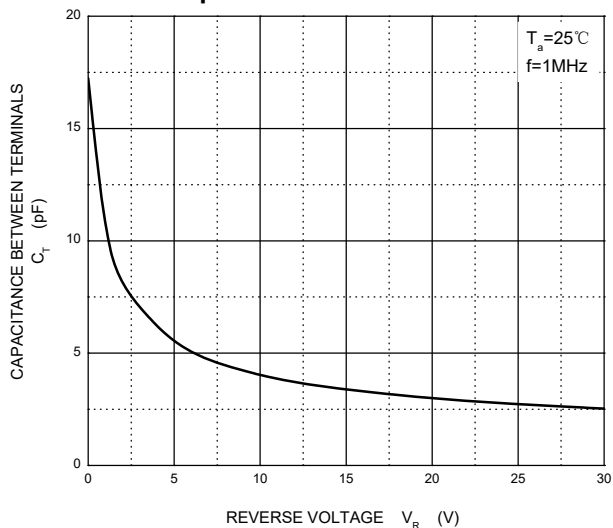
### Forward Characteristics



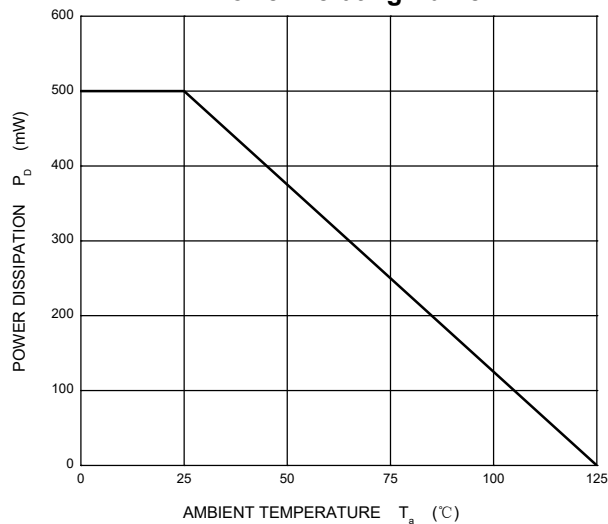
### Reverse Characteristics



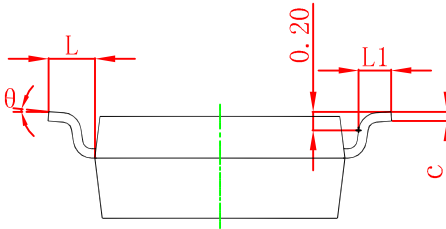
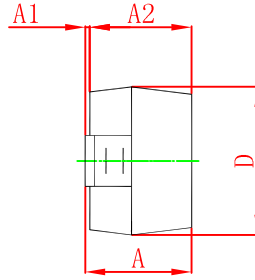
### Capacitance Characteristics



### Power Derating Curve



## 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	0.500 REF		0.020 REF	
L1	0.250	0.450	0.010	0.018
θ	0°	8°	0°	8°

## SOD-123 Suggested Pad Layout



### Note:

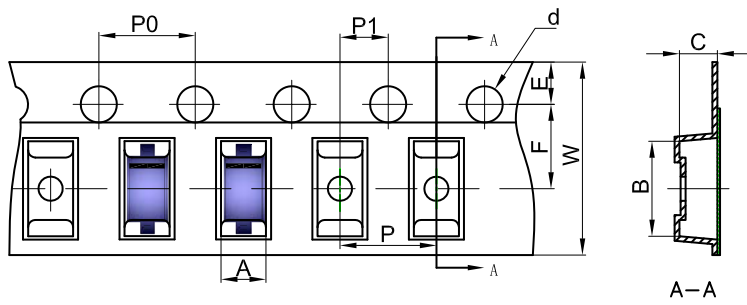
1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.

### NOTICE

JSCJ reserves the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JSCJ does not assume any liability arising out of the application or use of any product described herein.

# SOD-123 Tape and Reel

## SOD-123 Embossed Carrier Tape

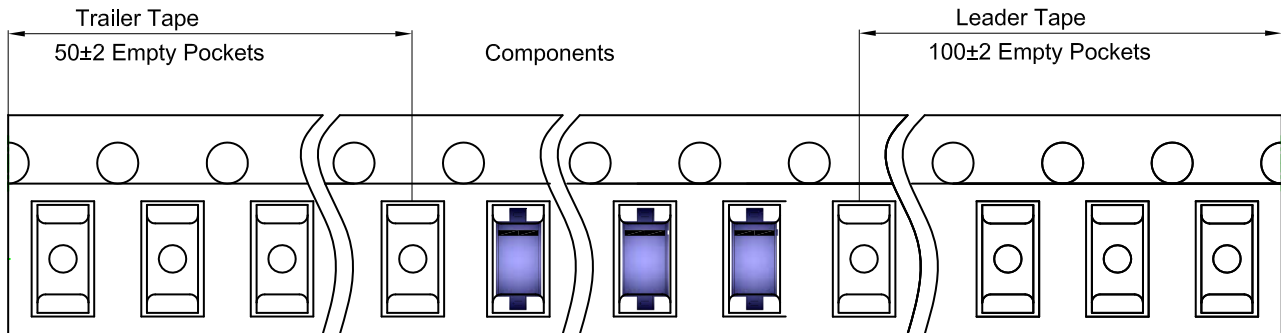


### Packaging Description:

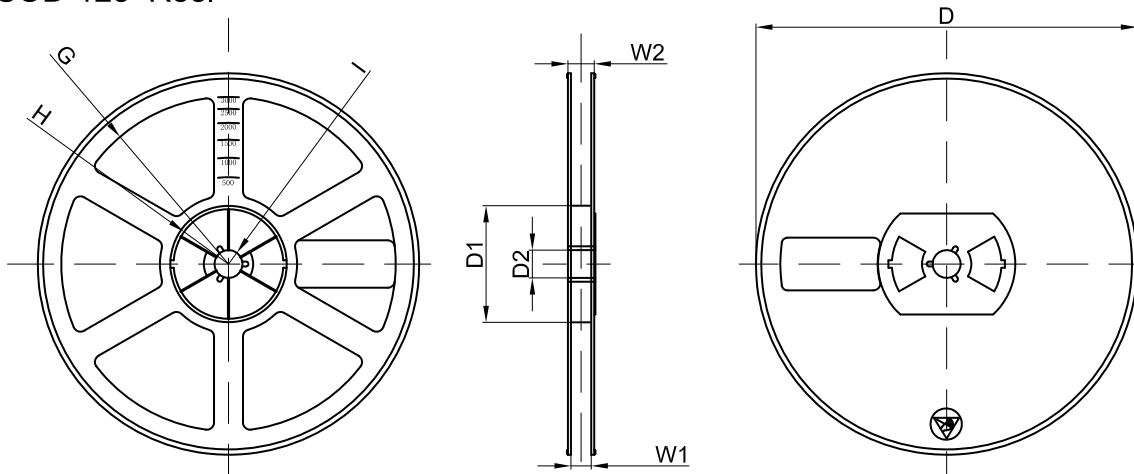
SOD-123 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter											
Pkg 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	

## SOD-123 Tape Leader and Trailer



## SOD-123 Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	45,000 pcs	203×203×195	180,000 pcs	438×438×220	