

## SOD-523 Plastic-Encapsulate Diodes

### BAT54XL Schottky Barrier Diode

#### FEATURES

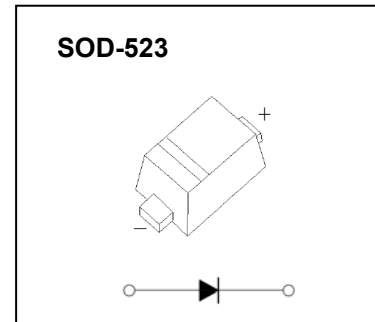
- Extremely Fast Switching Speed
- Low Forward Voltage

#### MARKING: JVL



JVL=Device code

The marking bar indicates the cathode



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

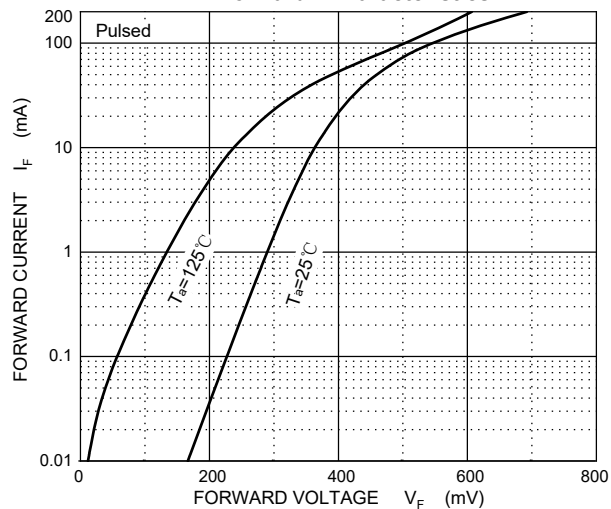
Parameter	Symbol	Limit	Unit
Non-repetitive peak reverse voltage	$V_{RM}$	30	V
DC blocking voltage	$V_R$	21	V
Average rectified output current	$I_O$	100	mA
Forward continuous current	$I_F$	200	mA
Repetitive peak forward current	$I_{FRM}$	300	mA
Forward surge current 4 pulses, 10ms, 100ms, 1s, 10s, 100s, 1ms, 10ms, 100ms, 1s, 10s, 100s	$I_{FSM}$	600	mA
Power dissipation	$P_d$	150	mW
Thermal resistance junction to ambient	$R_{\theta JA}$	667	$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	$T_J$	-40 ~ +125	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 ~ +150	$^\circ\text{C}$

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

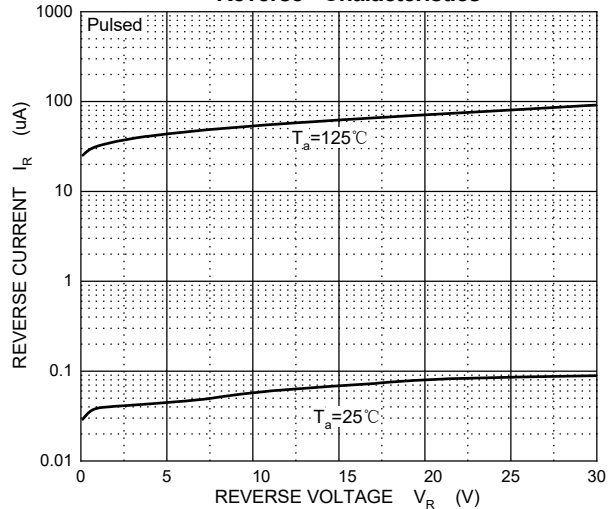
Parameter	Symbol	Min	Typ	Max	Unit	Test conditions
Reverse voltage	$V_{(BR)}$	30			V	$I_R=100\mu\text{A}$
Forward voltage	$V_F$		0.23	0.27	V	$I_{F1}=0.1\text{mA}$
			0.29	0.32	V	$I_{F2}=1\text{mA}$
			0.37	0.40	V	$I_{F3}=10\text{mA}$
			0.42	0.50	V	$I_{F4}=30\text{mA}$
			0.55	1	V	$I_{F5}=100\text{mA}$
Reverse current	$I_R$		0.085	2	$\mu\text{A}$	$V_R=25\text{V}$
Diode capacitance	$C_D$			12	pF	$V_R=1\text{V}, f=1\text{MHz}$
Reverse recovery time	$t_{rr}$			5	ns	$I_F=I_R=10\text{mA}$ $I_{rr}=0.1 \times I_R, R_L=100\Omega$

# Typical Characteristics

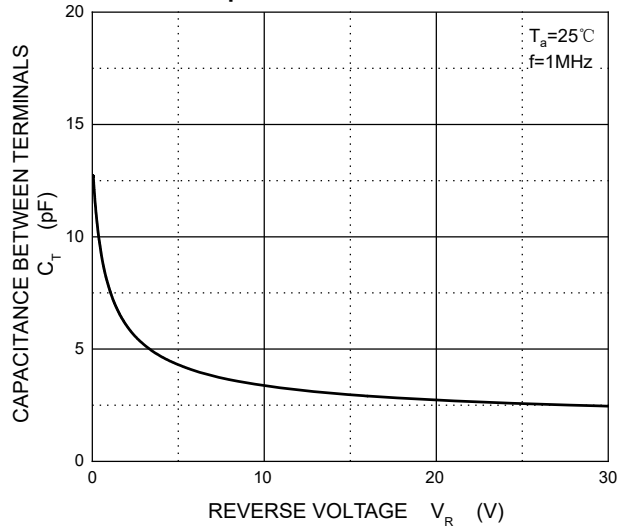
### Forward Characteristics



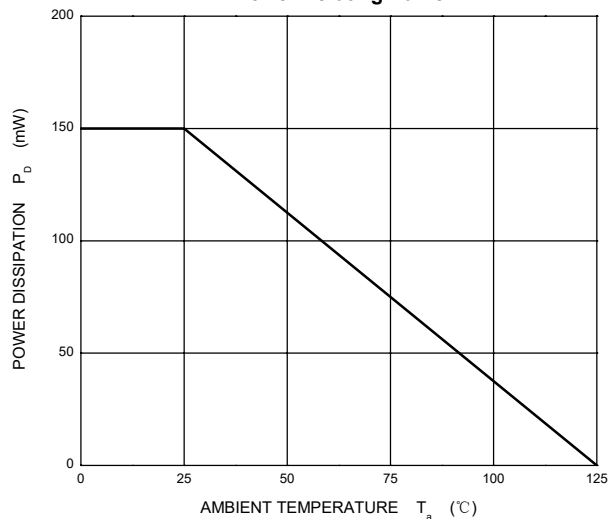
### Reverse Characteristics



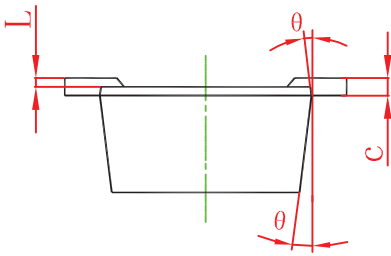
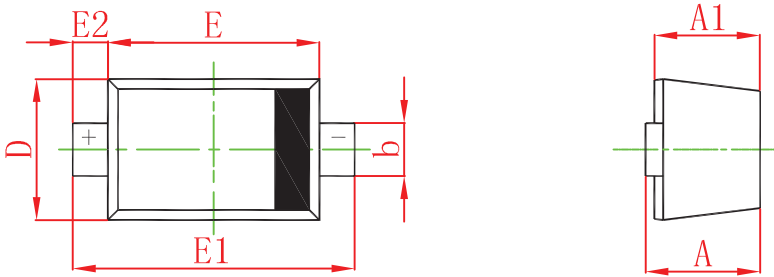
### Capacitance Characteristics



### Power Derating Curve

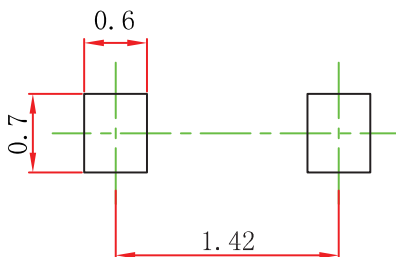


## SOD-523 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.510	0.770	0.020	0.031
A1	0.500	0.700	0.020	0.028
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	0.750	0.850	0.030	0.033
E	1.100	1.300	0.043	0.051
E1	1.500	1.700	0.059	0.067
E2	0.200 REF		0.008 REF	
L	0.010	0.070	0.001	0.003
θ	7° REF		7° REF	

## SOD-523 Suggested Pad Layout



**Note:**

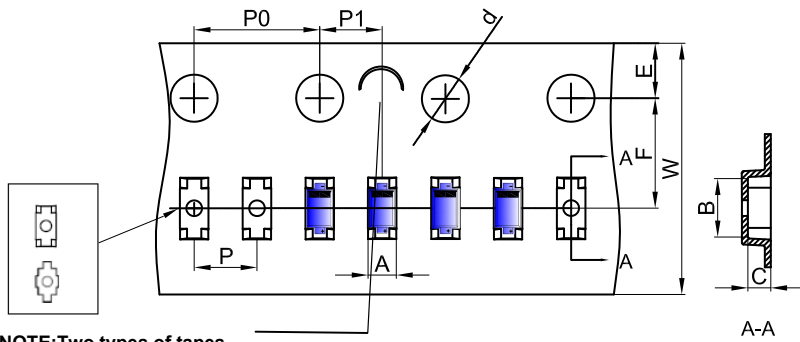
1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.

**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-523 Tape and Reel

## SOD-523 Embossed Carrier Tape



NOTE: Two types of tapes coexist side by side.

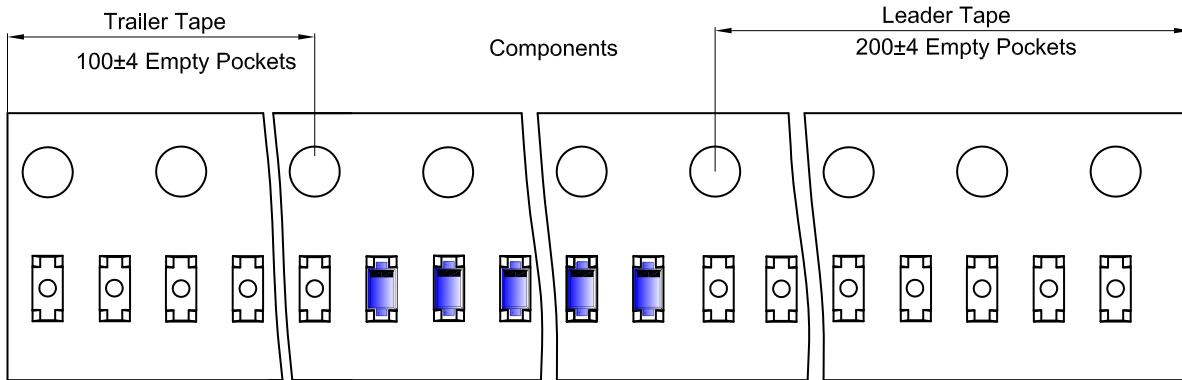
NOTE: TO CAVE 'C' ON CARRIER TAPE PER 120MM

### Packaging Description:

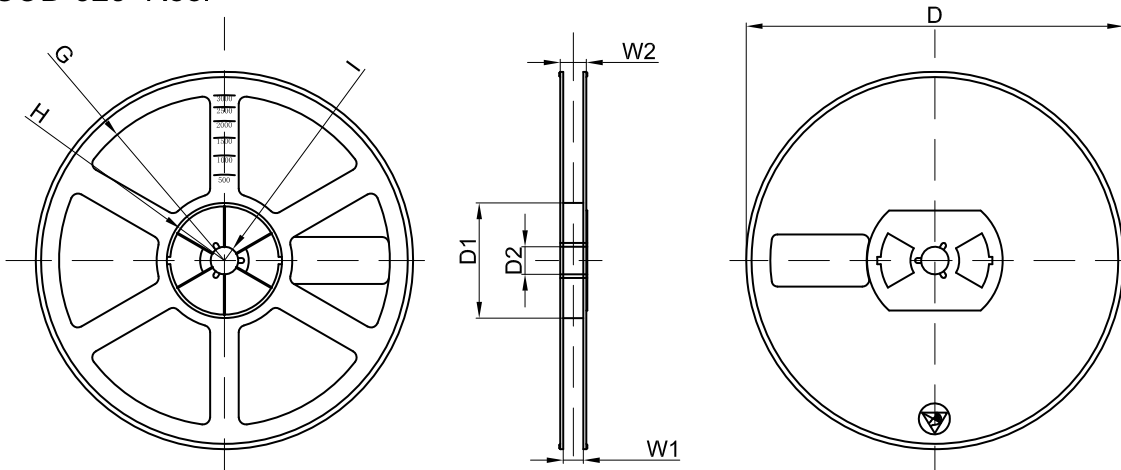
SOD-523 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 8,000 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-523	0.9	1.94	0.73	Ø1.50	1.75	3.50	4.00	2.00	2.00	8.00

## SOD-523 Tape Leader and Trailer



## SOD-523 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)
8000 pcs	7 inch	120,000 pcs	203×203×195	480,000 pcs	438×438×220	