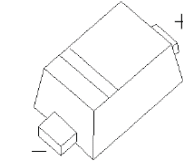


## SOD-523 Plastic-Encapsulate Diodes

### BAT46X SCHOTTKY BARRIER DIODE

SOD-523



#### FEATURES

- High breakdown voltage
- Low turn-on voltage
- Guard ring construction for transient protection

#### MARKING: S9



#### Maximum Ratings @T<sub>a</sub>=25°C

Parameter	Symbol	Limit	Unit
Peak repetitive peak reverse voltage	V <sub>R</sub> RM	100	V
Working peak reverse voltage	V <sub>R</sub> WM		
Forward continuous current	I <sub>F</sub>	150	mA
Repetitive peak forward current (Note 1) @ t <sub>p</sub> < 1.0s, Duty Cycle < 50%	I <sub>F</sub> RM	350	mA
Non-repetitive Peak Forward surge current @ t = 8.3ms	I <sub>F</sub> SM	750	mA
Power dissipation	P <sub>D</sub>	150	mW
Thermal resistance junction to ambient air	R <sub>θ</sub> JA	667	°C/W
Operating Junction Temperature Range	T <sub>J</sub>	-40 ~ +125	°C
Storage Temperature Range	T <sub>STG</sub>	-55 ~ +150	°C

#### ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C unless otherwise specified)

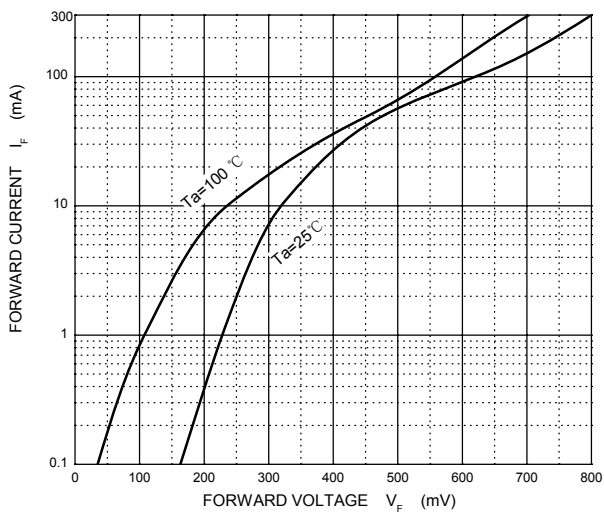
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse breakdown voltage(Note 2)	V <sub>R</sub>	I <sub>R</sub> = 100μA	100			V
Reverse voltage leakage current	I <sub>R</sub>	V <sub>R1</sub> =1.5V			0.3	μA
		V <sub>R2</sub> =10V			0.5	
		V <sub>R3</sub> =50V			1	
		V <sub>R4</sub> =75V			2	
Forward voltage(Note 2)	V <sub>F</sub>	I <sub>F1</sub> =0.1mA			0.25	V
		I <sub>F2</sub> =10mA			0.45	
		I <sub>F3</sub> =250mA			1	
Diode capacitance	C <sub>T</sub>	V <sub>R</sub> =0, f=1MHz		20		pF
		V <sub>R</sub> =1V, f=1MHz		12		

Notes: 1. Part mounted on FR-4 board with recommended pad layout.

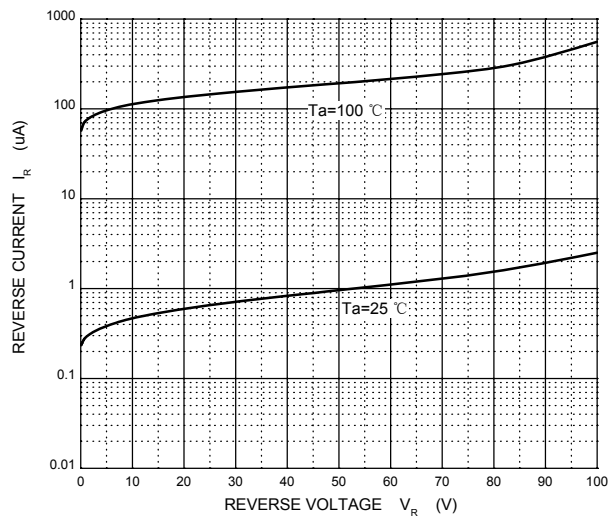
2. Short duration pulse test used to minimize self-heating effect.

# Typical Characteristics

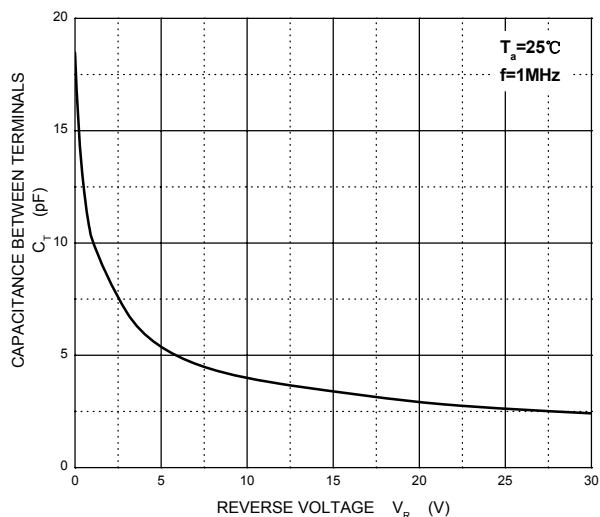
### Forward Characteristics



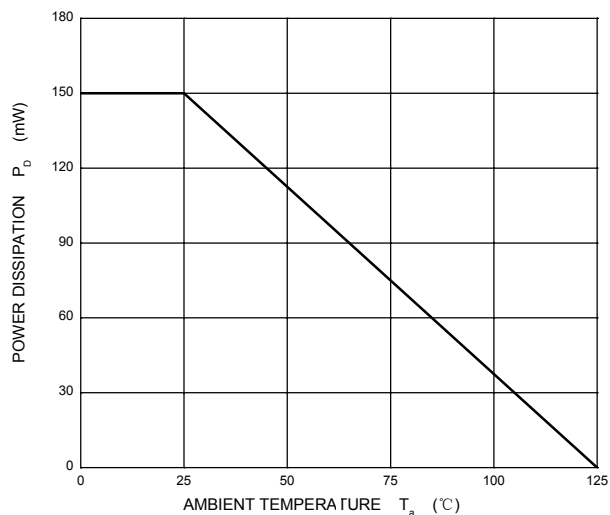
### Reverse Characteristics



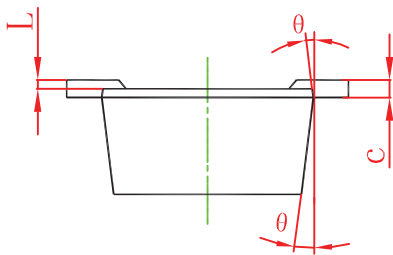
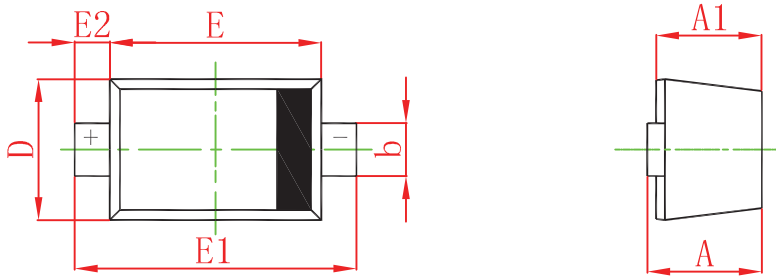
### Capacitance Characteristics



### Power Derating Curve

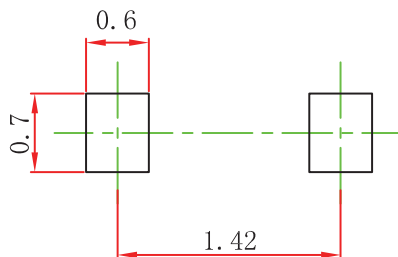


## SOD-523 Package Outline Dimensions



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:**

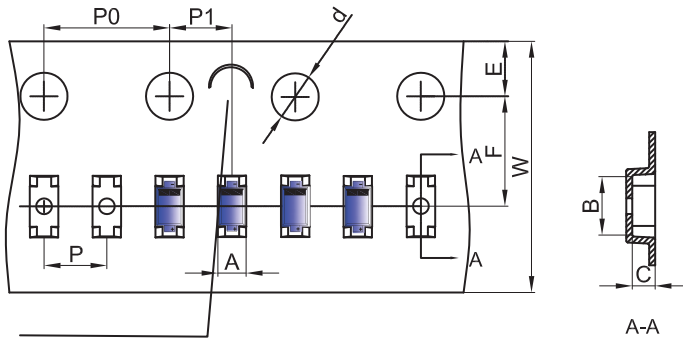
1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.

**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

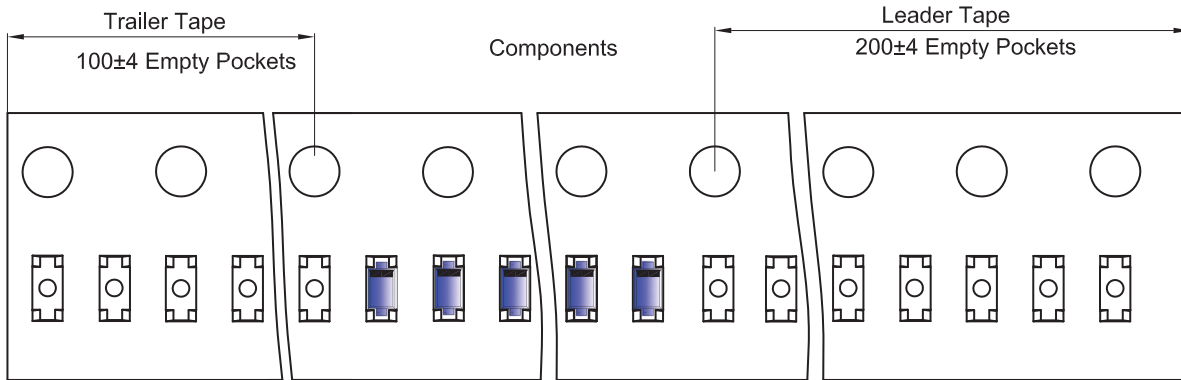


**Packaging Description:**  
 SOD-523 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed 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).

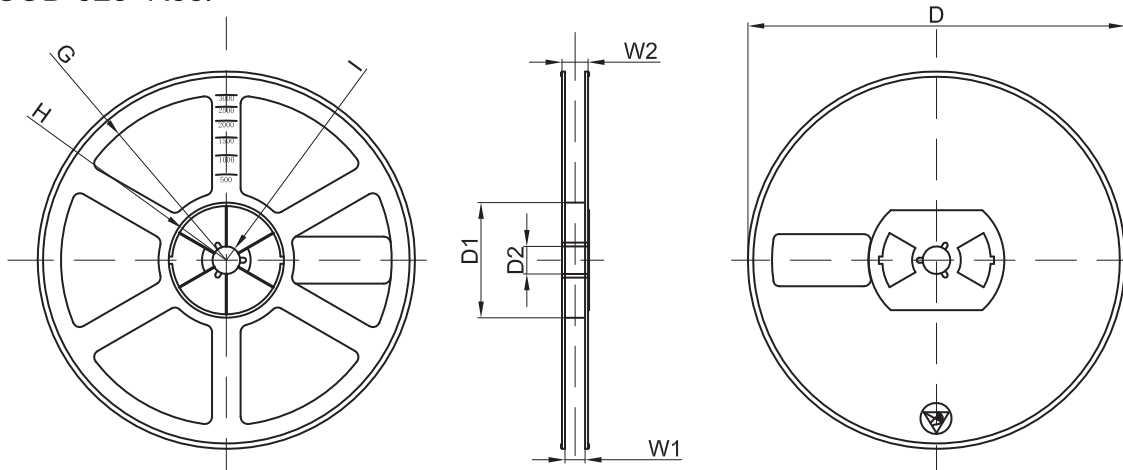
NOTE: TO CAVE 'C' ON CARRIER TAPE PER 120MM

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	