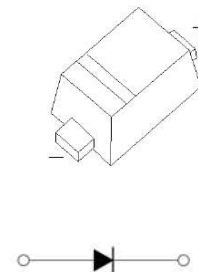




DONGGUAN NANJING ELECTRONICS LTD.,  
**SOD-523 Plastic-Encapsulate Diodes**

**B0520X** SCHOTTKY BARRIER DIODE

SOD-523



**FEATURES**

- Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- High Conductance
- Also Available in Lead Free Version

**MARKING:**



**Maximum Ratings @Ta=25°C**

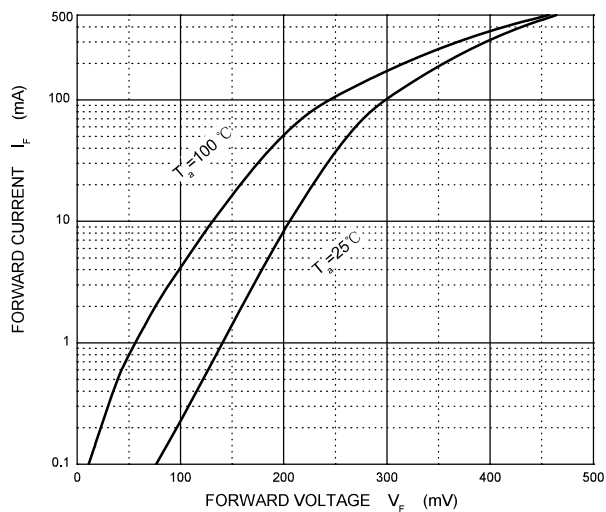
Parameter	Symbol	Value	Unit
Peak repetitive peak reverse voltage	$V_{RRM}$	20	V
Working peak reverse voltage	$V_{RWM}$		
DC blocking voltage	$V_R$		
RMS reverse voltage reverse voltage (DC)	$V_{R(RMS)}$	14	V
Average rectified output current	$I_o$	0.5	A
Non-repetitive Peak Forward Surge Current @t=8.3ms	$I_{FSM}$	5.5	A
Power dissipation	$P_D$	150	mW
Thermal resistance junction to ambient	$R_{\theta JA}$	667	°C/W
Operating Junction Temperature Range	$T_j$	-40 ~ +125	°C
Storage Temperature Range	$T_{STG}$	-55 ~ +150	°C

**Electrical Characteristics @Ta=25°C**

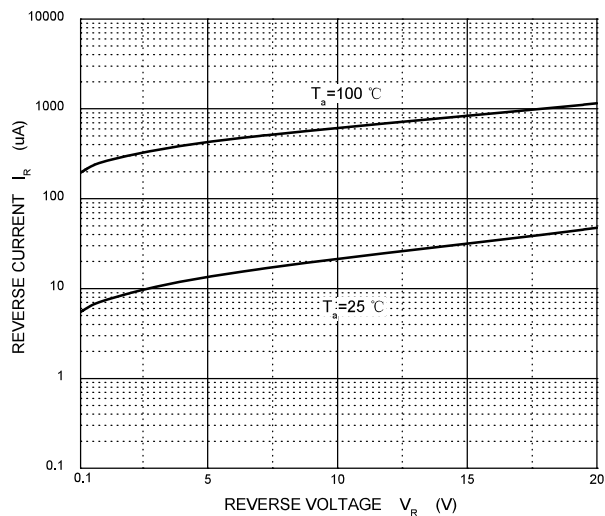
Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Minimum reverse b-reakdown voltage	$V_{(BR)}$	20			V	$I_R=250\mu A$
Forward voltage	$V_{F1}$			180	mV	$I_F=0.1mA$
	$V_{F2}$			240		$I_F=1mA$
	$V_{F3}$			290		$I_F=10mA$
	$V_{F4}$			380	mV	$I_F=100mA$
	$V_{F5}$			480		$I_F=500mA$
Reverse current	$I_R$			30	$\mu A$	$V_R=10V$
Capacitance between terminals	$C_T$			30	pF	$V_R=1V, f=1MHz$

# Typical Characteristics

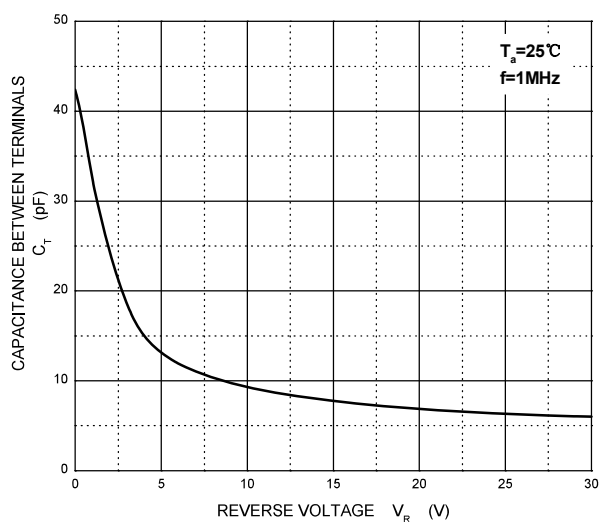
### Forward Characteristics



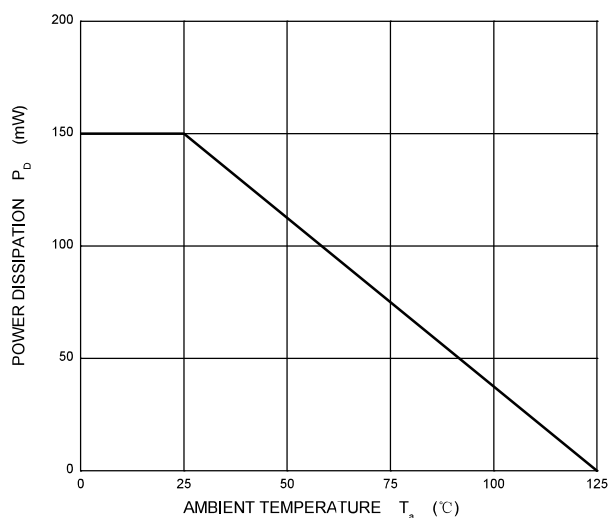
### Reverse Characteristics



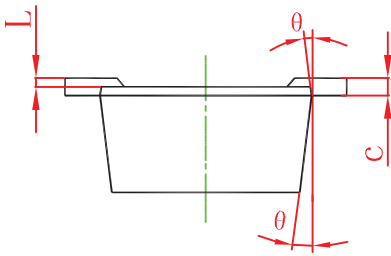
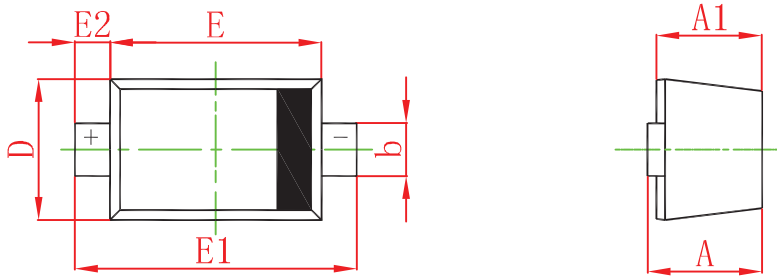
### Capacitance Characteristics



### Power Derating Curve

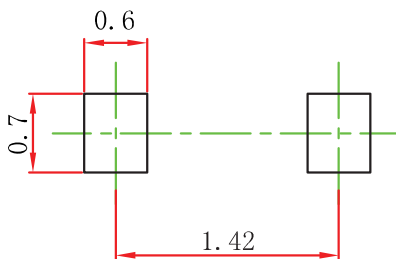


## SOD-523 Package Outline Dimensions



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

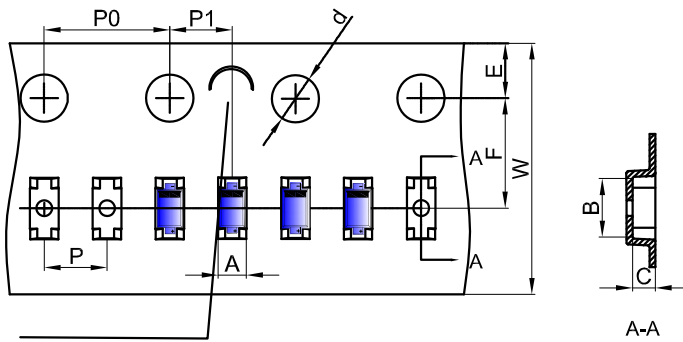


**Note:**

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

# SOD-523 Tape and Reel

## SOD-523 Embossed Carrier Tape



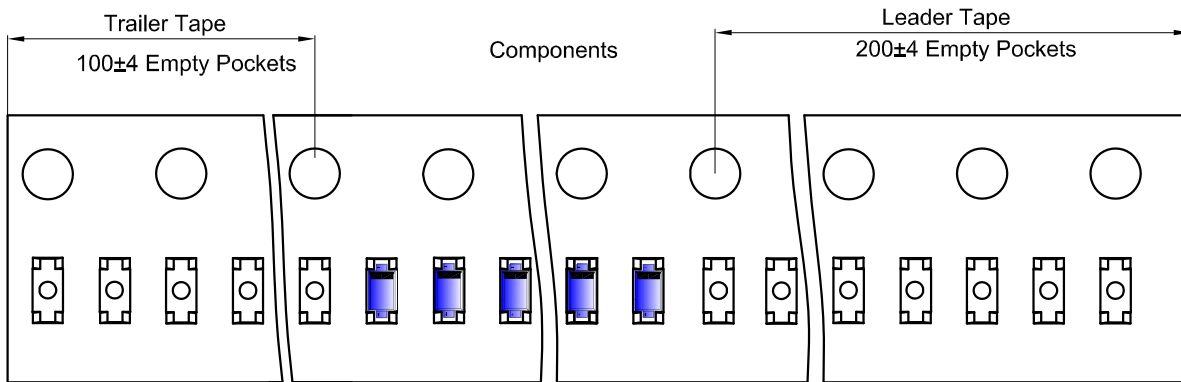
### Packaging Description:

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).

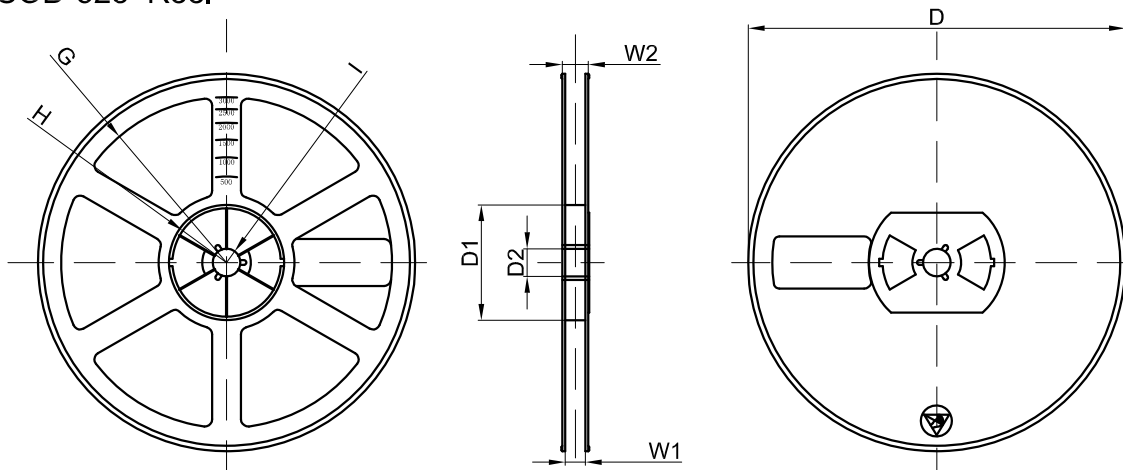
NOTE: TO CAVE 'C' ON CARRIER TAPE PER 120MM

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	