

## SOD-523 Plastic-Encapsulate Diodes

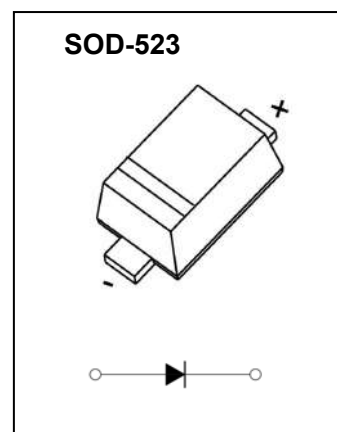
### SCHOTTKY BARRIER DIODE

#### Feature

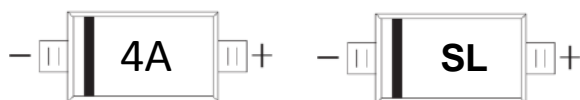
- Low Forward Voltage Drop
- Very Small SMD Package

#### Application

- Low Voltage Rectification
- High Efficiency DC/DC Conversion
- Switch Mode Power Supply
- Inverse Polarity Protection
- Low Power Consumption Applications



#### MARKING:

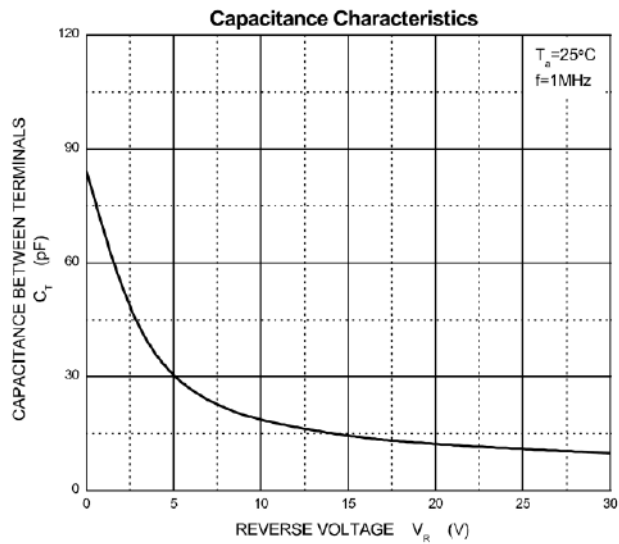
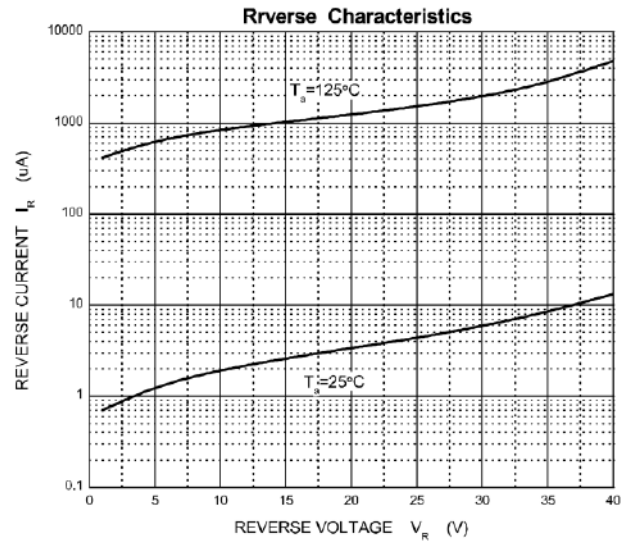
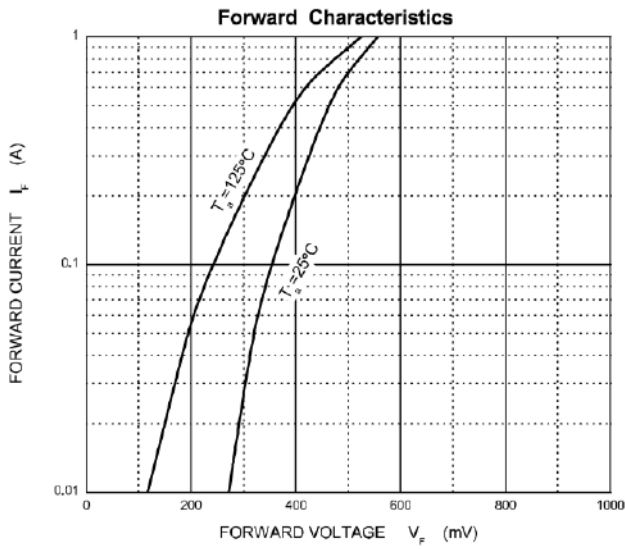


#### ABSOLUTE MAXIMUM RATINGS ( $T_a=25^{\circ}\text{C}$ unless otherwise noted)

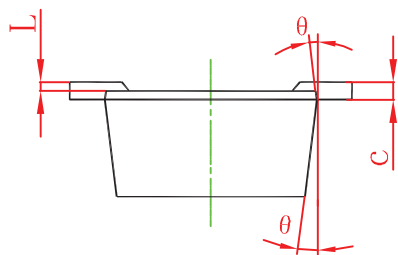
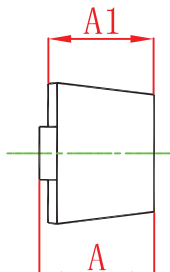
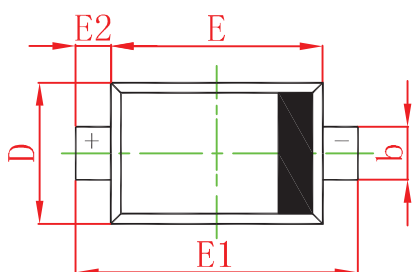
Parameter	Symbol	Value	Unit
DC reverse voltage	$V_R$	40	V
Mean rectifying current	$I_o$	1	A
Non-repetitive Peak Forward Surge Current @ $t=8.3\text{ms}$	$I_{FSM}$	7	A
Power Dissipation	$P_D$	0.5	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	250	$^{\circ}\text{C/W}$
Operating Junction 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 noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Reverse voltage	$V_{BR}$	$I_R = 1\text{mA}$	40			V
Reverse current	$I_R$	$V_R = 40\text{V}$		10	40	$\mu\text{A}$
Forward voltage	$V_F$	$I_F = 0.1\text{A}$		0.35	0.38	V
		$I_F = 0.2\text{A}$		0.37	0.40	V
		$I_F = 0.5\text{A}$		0.42	0.49	V
		$I_F = 0.7\text{A}$		0.47	0.55	V
		$I_F = 1\text{A}$		0.51	0.61	V
Total capacitance	$C_{tot}$	$V_R = 10\text{V}, f = 1\text{MHz}$		19		pF

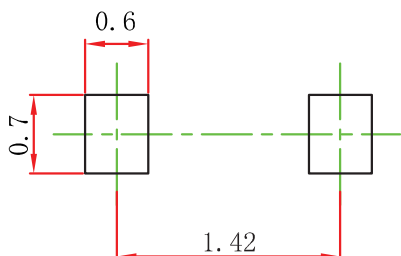


**SOD-523 Package Outline Dimensions**



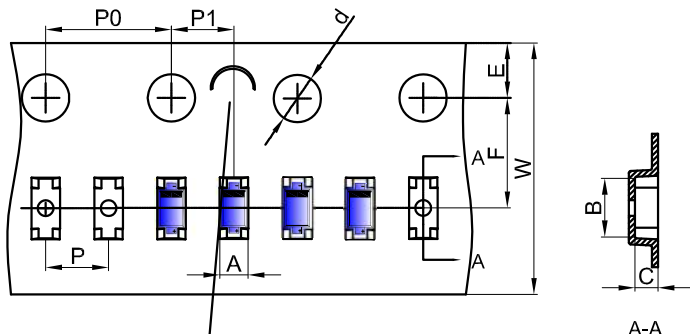
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.510	0.770	0.020	0.031
A1	0.500	0.700	0.020	0.028
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	0.750	0.850	0.030	0.033
E	1.100	1.300	0.043	0.051
E1	1.500	1.700	0.059	0.067
E2	0.200 REF		0.008 REF	
L	0.010	0.070	0.001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

**SOD-523 Suggested Pad Layout**



Note:  
 1. Controlling dimension: in millimeters.  
 2. General tolerance: ± 0.05mm.  
 3. The pad layout is for reference purposes only.

**SOD-523 Embossed Carrier Tape**



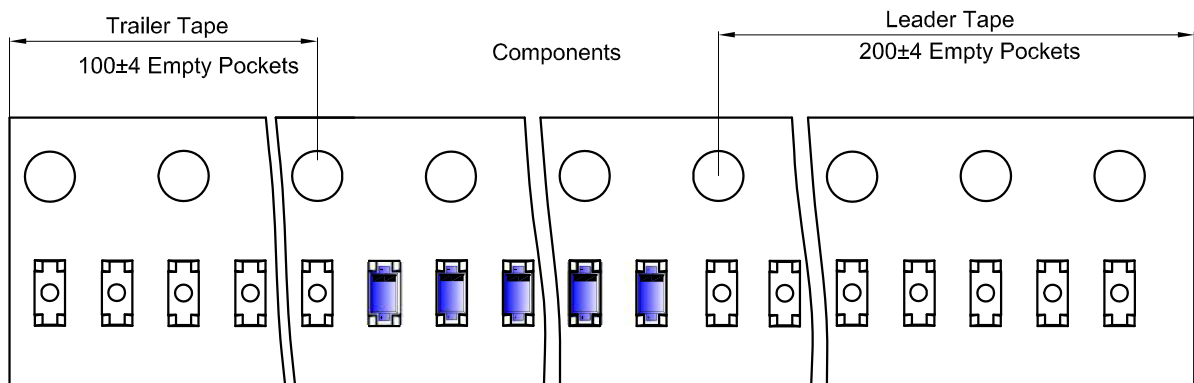
NOTE: TO CAVE 'C' ON CARRIER TAPE PER 120MM

**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).

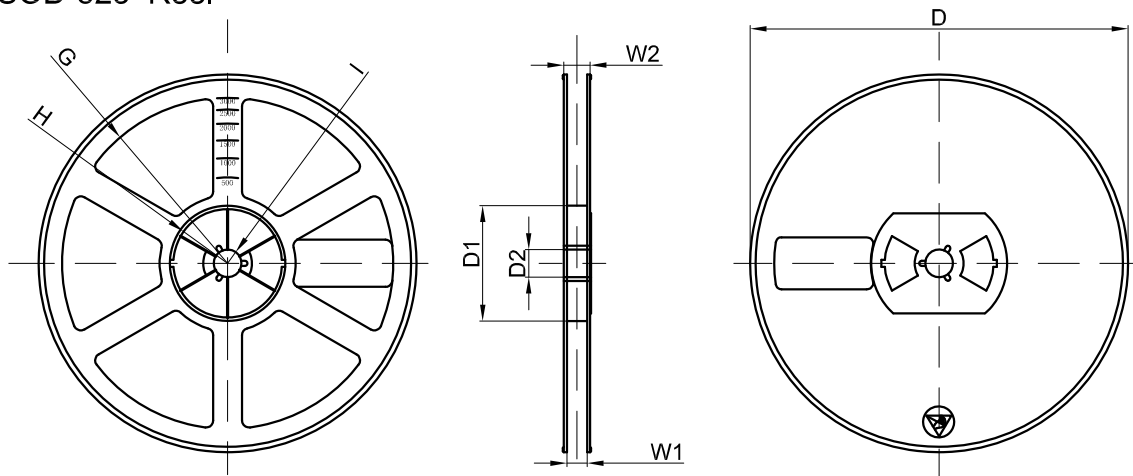
Dimensions are in millimeter

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	