

SOD-523 Plastic-Encapsulate Diodes

FAST SWITCHING DIODE

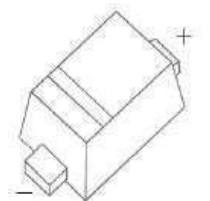
SOD-523

FEATURES

- Small Package
- Low Reverse Current
- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion

Marking

Marking	a / L4
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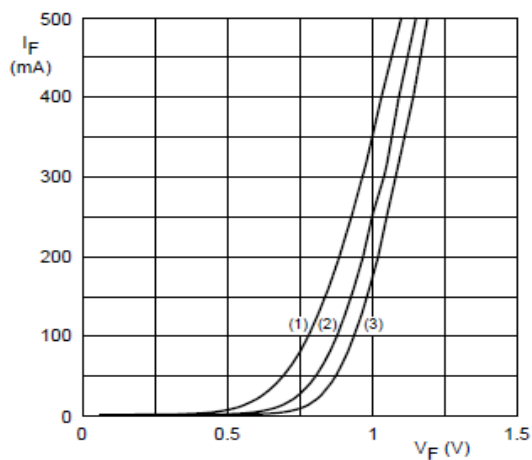
MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	300	V
Reverse Voltage	V_R	300	V
Continuous Forward Current	I_F	250	mA
Repetitive Peak Forward Current	I_{FRM}	1000	mA
Non-Repetitive Peak Forward Current (1 μs)	I_{FSM}	4.5	A
Power Dissipation	P_{tot}	500	mW
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	- 65 to + 150	$^{\circ}\text{C}$

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

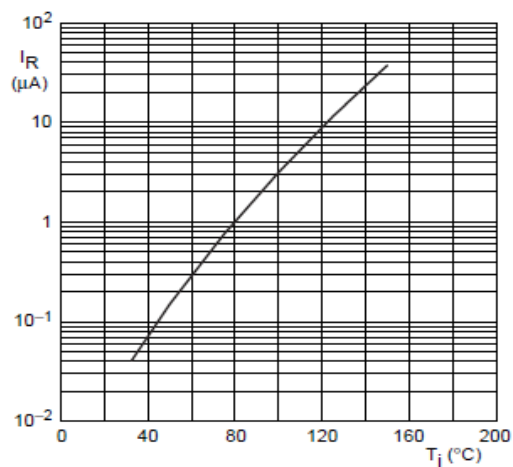
Parameter	Symbol	Min.	Max.	Unit
Forward Voltage at $I_F = 100 \text{ mA}$	V_F	-	1.1	V
Reverse Breakdown Voltage at $I_R = 100 \mu\text{A}$	$V_{(BR)R}$	300	-	V
Reverse Current at $V_R = 200 \text{ V}$	I_R	-	150	nA
Reverse Recovery Time at $I_F = I_R = 30 \text{ mA}$, $R_L = 100 \Omega$, $i_{rr} = 0.1 I_R$	t_{rr}	-	50	ns
Total Capacitance at $V_R = 0 \text{ V}$, $f = 1 \text{ MHz}$	C_T	-	5	pF

Typical Characteristics



- (1) $T_{amb} = 150\text{ }^{\circ}\text{C}$.
(2) $T_{amb} = 75\text{ }^{\circ}\text{C}$.
(3) $T_{amb} = 25\text{ }^{\circ}\text{C}$.

Fig 1 Forward current as a function of forward voltage; typical values.



$V_R = V_{Rmax}$; typical values.

Fig 2 Reverse current as a function of junction temperature.

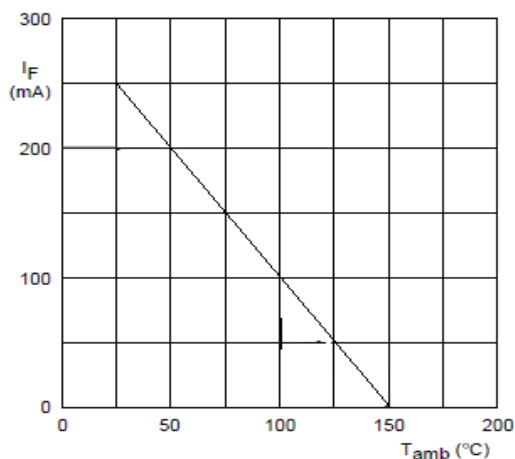


Fig 3 Maximum permissible continuous forward current as a function of ambient temperature.

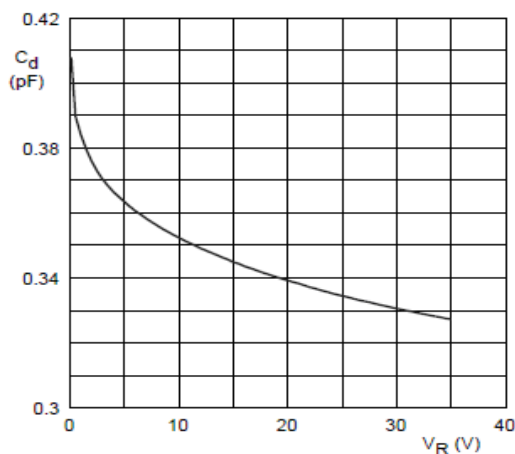
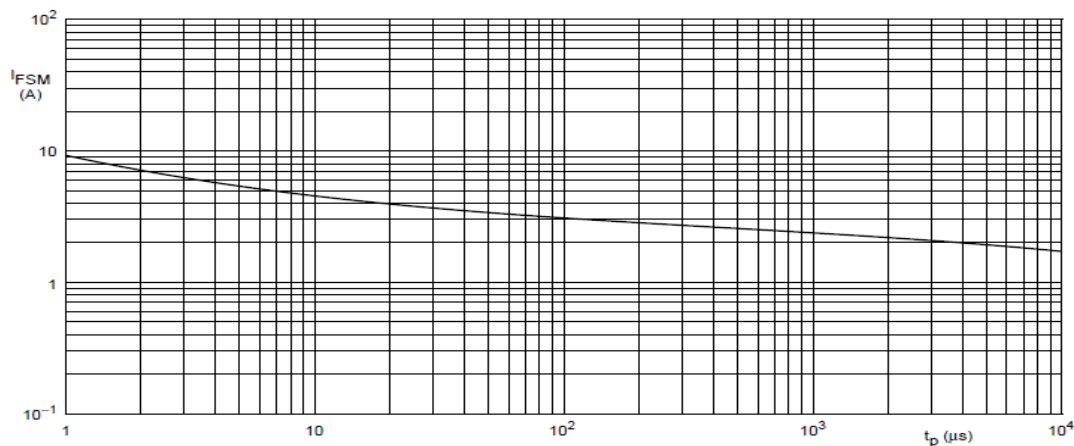


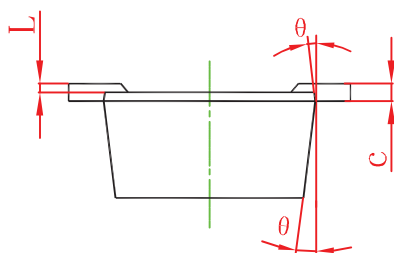
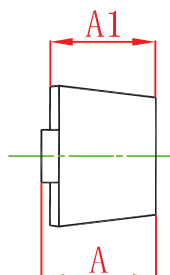
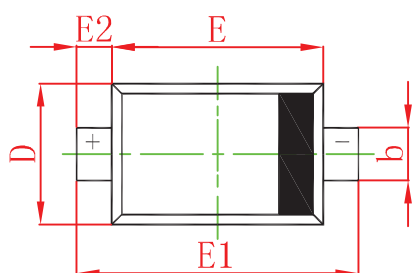
Fig 4 Diode capacitance as a function of reverse voltage; typical values.



Based on square wave currents.
 $T_J = 25\text{ }^{\circ}\text{C}$ prior to surge.

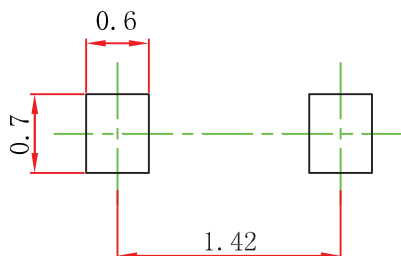
Fig 5 Maximum permissible non-repetitive peak forward current as a function of pulse duration.

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

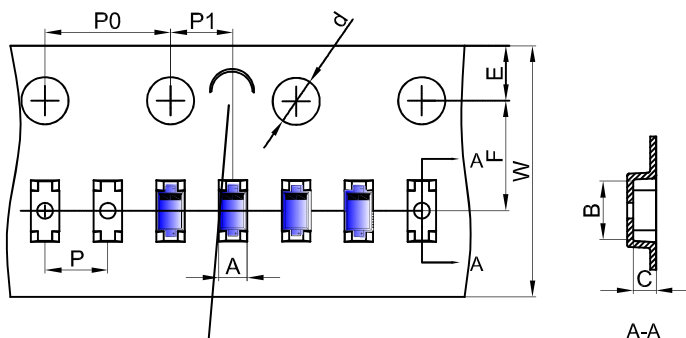


Note:

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



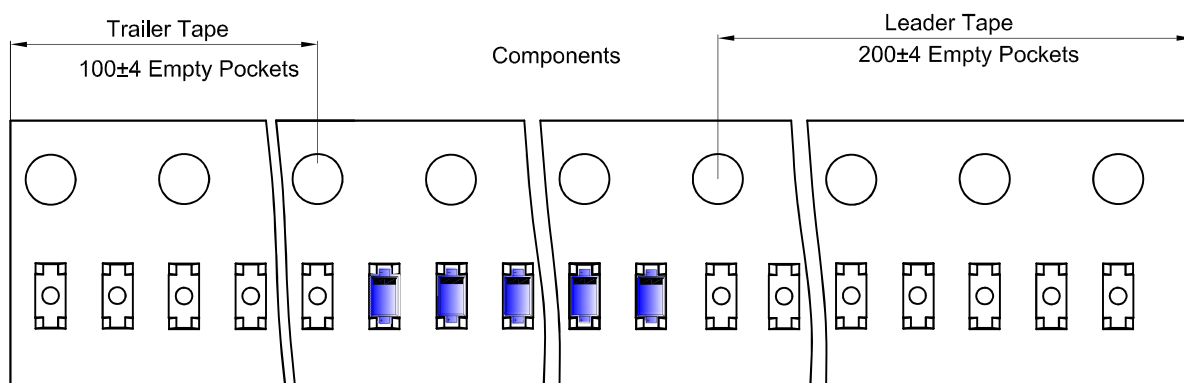
NOTE: TO CAVE 'C' ON CARRIER TAPE PER 120MM

Packaging Description:

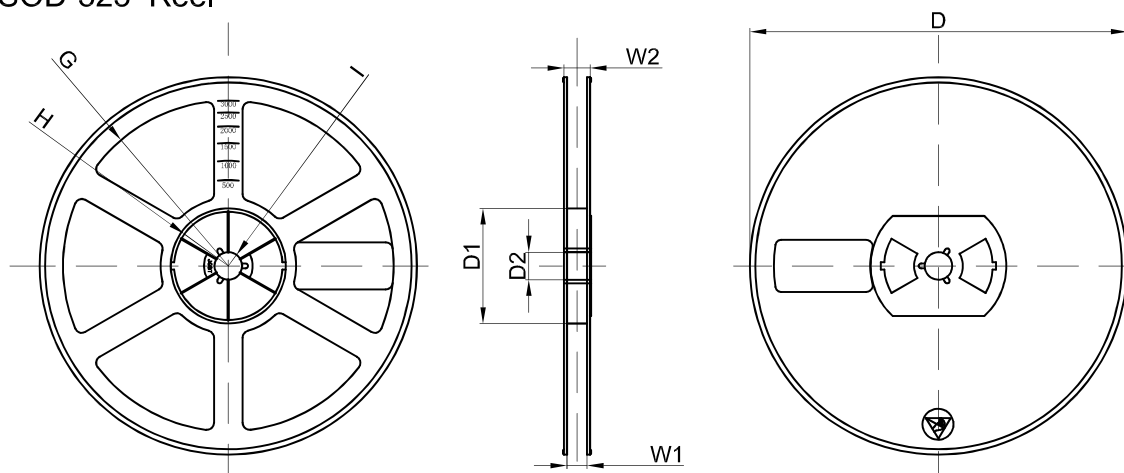
SOD-523 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts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