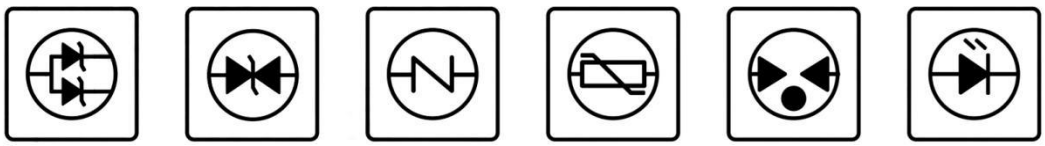
MSKSEMI
SEMICONDUCTOR



Product data sheet

SOD-523

FEATURES

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

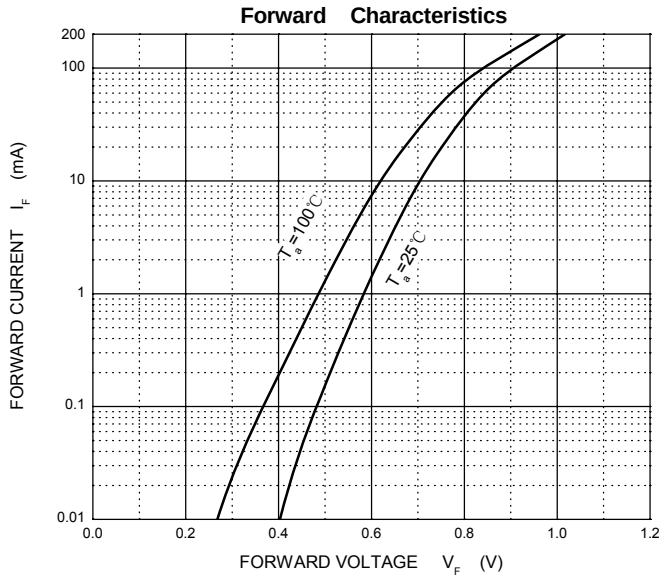
MARKING:T4

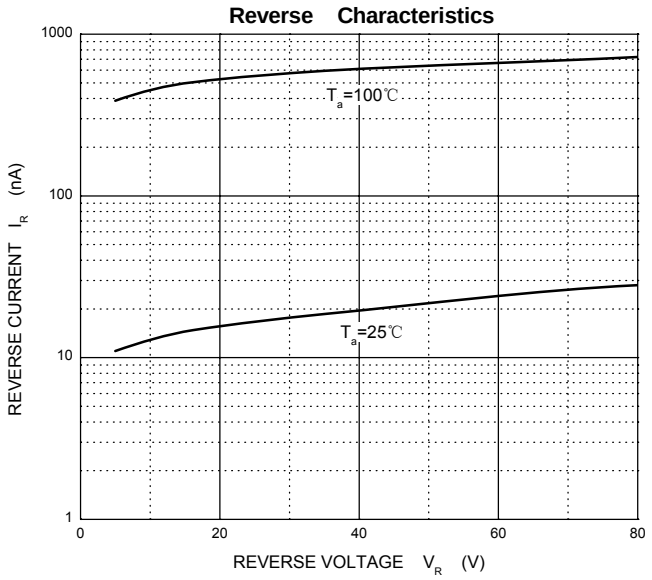
MAXIMUM RATINGS（T_a=25℃ unless otherwise noted）

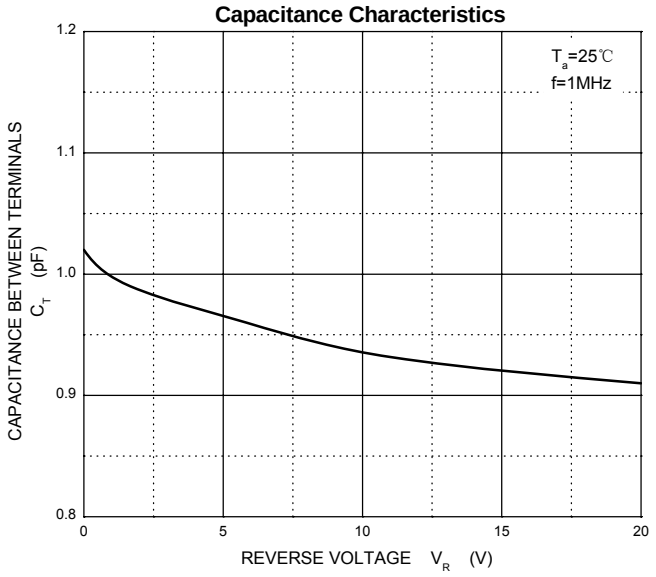
Symbol	Parameter	Value	Unit
V_{RM}	Non-Repetitive Peak Reverse Voltage	100	V
V_R	Reverse Voltage	75	V
V_{RRM}	Peak Repetitive Reverse Voltage		
V_{RWM}	Working Peak Reverse Voltage		
$V_{R(RMS)}$	RMS Reverse Voltage	53	V
I_O	Average Rectified Output Current	150	mA
I_{FM}	Forward Continuous Current	300	mA
I_{FSM}	Non-repetitive Peak Forward Surge Current@t=8.3ms	2	A
P_D	Power Dissipation	150	mW
$R_{\Theta JA}$	Thermal Resistance from Junction to Ambient	833	℃/W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55~+150	℃

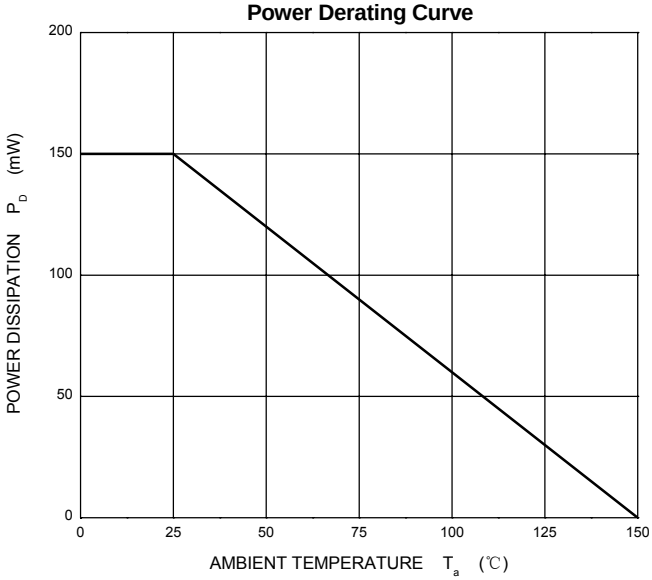
ELECTRICAL CHARACTERISTICS(T_a=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse voltage	$V_{(BR)}$	I_R=1μA	75			V
Reverse current	I_R	V_R=75V			1	μA
		V_R=20V			25	nA
Forward voltage	V_F	I_F=1mA			0.715	V
		I_F=10mA			0.855	V
		I_F=50mA			1	V
		I_F=150mA			1.25	V
Total capacitance	C_{tot}	V_R=0V,f=1MHz			2	pF
Reverse recovery time	t_{rr}	I_F= I_R =10mA, I_{rr}=0.1*I_R,R_L=100Ω			4	ns

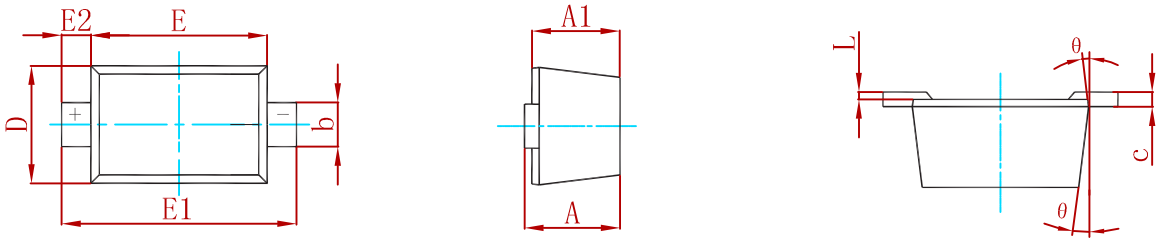

Forward Characteristics
FORWARD CURRENT I_F (mA)
200
100
10
1
0.1
0.01
0.0
0.2
0.4
0.6
0.8
1.0
1.2
T_a=100℃
T_a=25℃
FORWARD VOLTAGE V_F (V)


Reverse Characteristics
REVERSE CURRENT I_R (nA)
1000
100
10
1
0
20
40
60
80
T_a=100℃
T_a=25℃
REVERSE VOLTAGE V_R (V)


Capacitance Characteristics
CAPACITANCE BETWEEN TERMINALS C_T (pF)
1.2
1.1
1.0
0.9
0.8
0
5
10
15
20
T_a=25℃
f=1MHz
REVERSE VOLTAGE V_R (V)

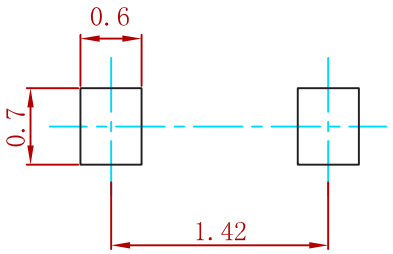

Power Derating Curve
POWER DISSIPATION P_D (mW)
200
150
100
50
0
0
25
50
75
100
125
150
AMBIENT TEMPERATURE T_a (℃)

PACKAGE MECHANICAL DATA



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	

Suggested Pad Layout



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

REEL SPECIFICATION

P/N	PKG	QTY
1N4148WT	SOD-523	3000

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