



1. Features

- Ideal for printed circuit board.
- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automated Insertion
- For General Purpose Switching Applications
- High Conductance

SOD-123



2. Mechanical Data

- Case:Molded Plastic,SOD-123.
- Epoxy:UL 94V-0 rate flame retardant.
- Terminals:Plated Leads Solderable per MIL-STD-750, Method-2026.
- Marking:W1
- Marking:marked on body.



3. Maximum Ratings

Electrical Characteristics Rating at 25°C ambient temperature unless otherwise specified.

Characteristic	Symbol	Value	Unit
Peak Repetitive Peak Reverse Voltage	V_{RRM}	100	V
RMS Reverse Voltage	V_{RMS}	80	V
Forward Continuous Current	I_{FM}	300	mA
Average Rectified Output Current	I_O	150	mA
Non-Repetitive Peak Forward Current $t = 1 \mu s$	I_{FSM}	4	A
Power Dissipation	P_D	400	mW
Junction Temperature	T_J	-65 to +150	°C
Storage Temperature Range	T_{stg}	-65 to +150	°C

4. Electrical Characteristics ($T_a=25^\circ\text{C}$ unless otherwise noted)

Parameters	Symbol	Cindition	Min	TYP	Max	Unit
Minimum Reverse Breakdown Voltage	V_{BR}	$I_R = 100\mu A$	80	-	-	V
Forward Voltage	V_F	$I_F = 5mA$	0.62		0.72	V
		$I_F = 10mA$	-	-	0.855	
		$I_F = 100mA$	-		1	
		$I_F = 150mA$	-		1.25	
Reverse Current	I_R	$V_R = 20V$	-	-	25	nA
		$V_R = 80V$	-	-	100	nA
		$V_R = 25V, T_J = 150^\circ\text{C}$	-	-	30	μA
		$V_R = 75V, T_J = 150^\circ\text{C}$	-	-	50	μA
Capacitance between terminals	C_T	$V_R = 0.5 V, f = 1 \text{ MHz}$	-	-	4	pF
Reverse Recovery Time	t_{rr}	$I_F=I_R=10mA, I_{rr}=0.1*I_R, R_L=100\Omega$	-	-	4	ns



5. Rating And Characteristic Curves

Fig.1 Forward Characteristics

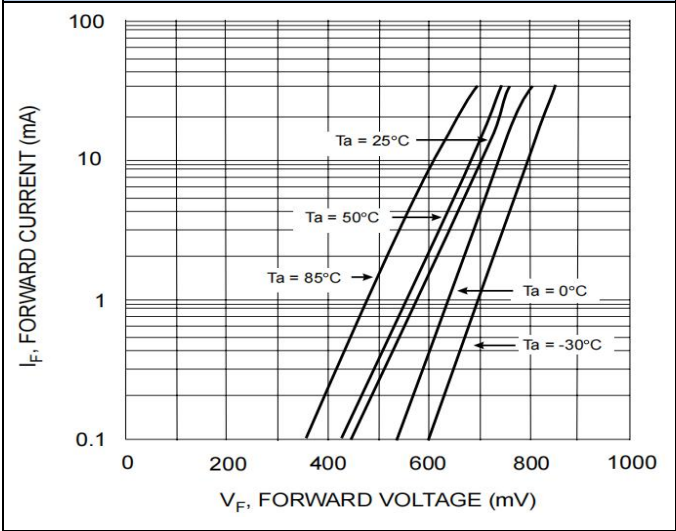


Fig.2 Reverse Characteristics

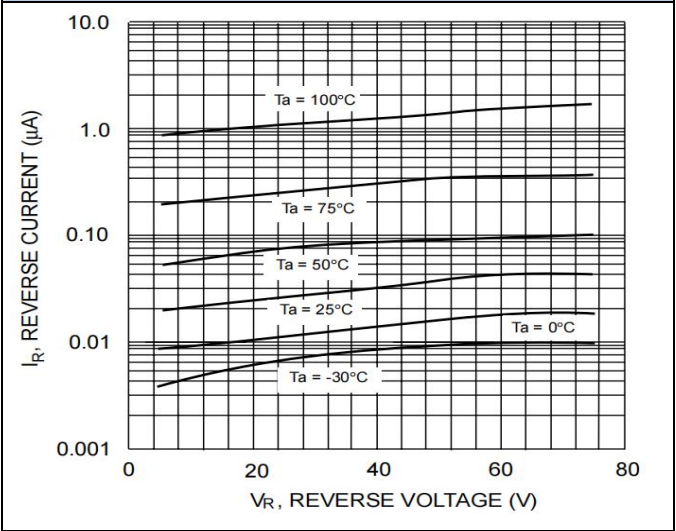


Fig.3 Capacitance Characteristics

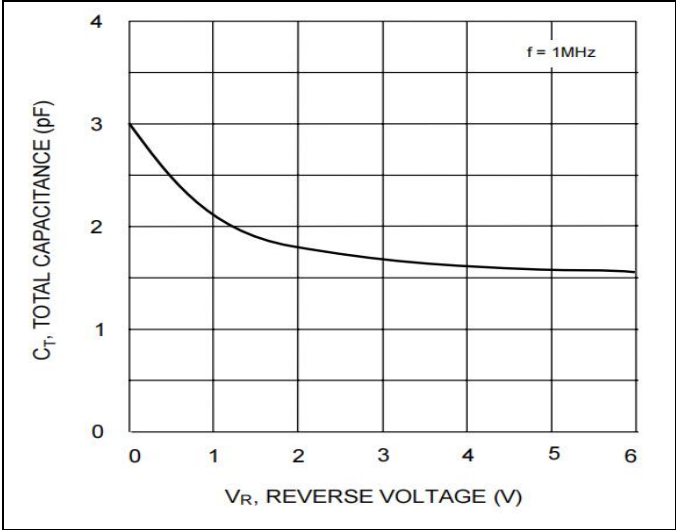
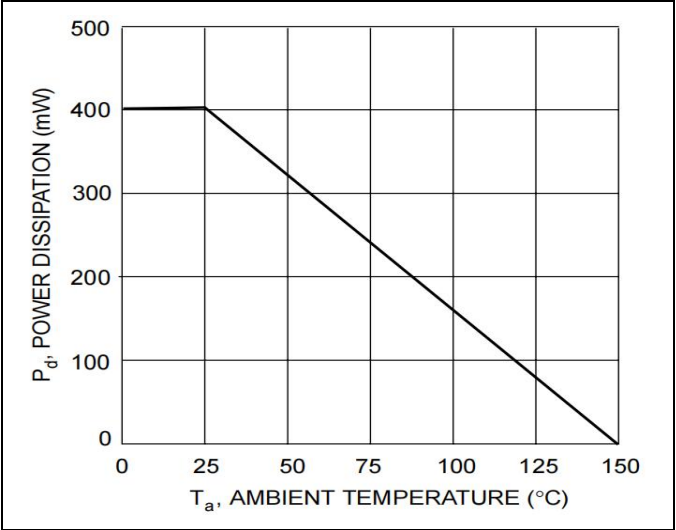
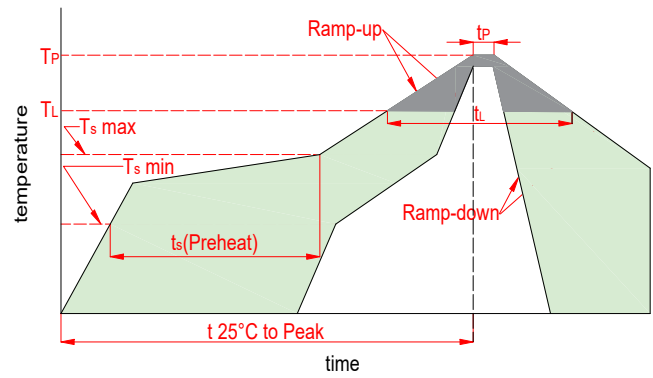


Fig.4 Power Derating Curve



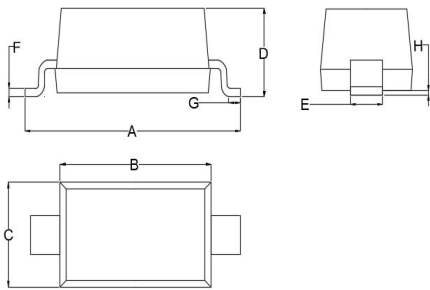


6. Soldering Parameters



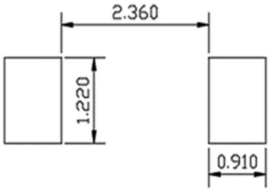
Reflow Condition		Lead-free
Pre Heat	Temp. min(T_s (min))	150℃
	Temp. max(T_s (min))	200℃
	Time(min to max)(t_s)	60~120s
Aver. ramp up rate(Liquidus Temp.)(T_L)to peak		3℃/s max
T_s (max) to T_L -Ramp-up Rate		3℃/s max
Reflow	Temp.(T_L)(Liquidus)	217℃
	Temp.(t_L)(Liquidus)	60~150s
Peak Temp.(T_P)		260 ^{+0/-5} ℃
Time within actual peak Temp.(t_p)		30s max
Ramp-down Rate		6℃/s max
Time 25℃ to peak Tempe.(T_p)		8 minutes max
Do not exceed		260℃

7. Dimensions

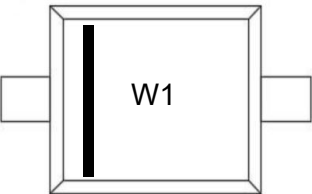


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.136	0.152	3.450	3.850
B	0.100	0.110	2.550	2.800
C	0.059	0.067	1.500	1.700
D	0.035	0.049	0.900	1.250
E	0.018	0.028	0.450	0.700
F	0.004	0.006	0.090	0.150
G	0.008	0.020	0.200	0.500
H	0.000	0.004	0.010	0.100

Mounting PAD Layout



8. Part Marking System



9. Package Information

Package	Type	Tape Width(mm)	Quantity(pcs)
SOD-123	1N4448W	8	3000



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