



## 1. Features

SOD-123

- Low forward voltage
- Low reverse capacitance

## 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:SM
- Mounting Position : Any.



## 3. Maximum Ratings

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

Characteristic	Symbol	Value	Unit
DC reverse voltage	$V_R$	60	V
Mean rectifying current	$I_O$	15	mA
Peak Forward Surge Current @ $t = 10 \mu s$	$I_{FSM}$	2	A
Thermal Resistance, Junction to Ambient Air	$R_{\theta JA}$	300	°C/W
Power Dissipation	$P_D$	333	mW
Junction Temperature Range	$T_J$	-55 to+125	°C
Storage Temperature Range	$T_{stg}$	-55 to+150	°C

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

Parameters	Symbol	Cindition	Min	TYP	Max	Unit
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R = 10\mu A$	60	-	-	V
Forward Voltage	$V_F$	$I_F = 1mA$	-	-	0.41	V
		$I_F = 15mA$	-	-	1	
Reverse Current	$I_R$	$V_R = 50V$	-	-	200	nA
Total Capacitance	$C_{tot}$	$V_R = 0 V, f = 1 \text{ MHz}$	-	-	2.2	pF
Reverse Recovery Time	$t_{rr}$	$I_F=I_R=5mA, I_{tr}=0.1 * I_R, R_L=100 \Omega$	-	-	1	ns



## 5. Rating And Characteristic Curves

Fig.1 Typical Forward Voltage

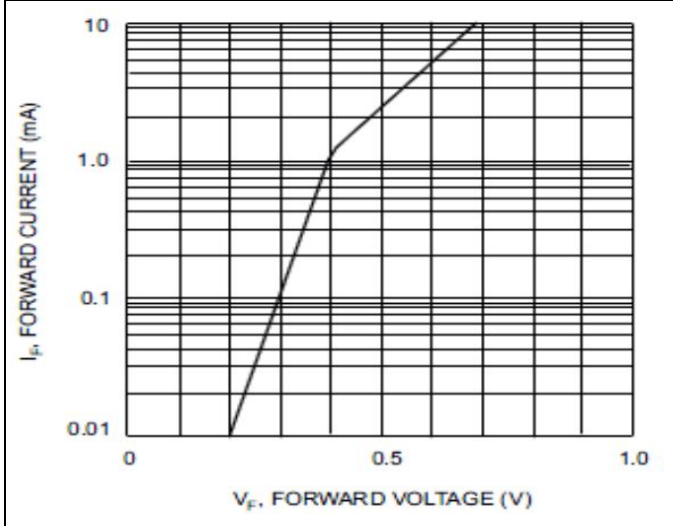


Fig.2 Typical Reverse Current

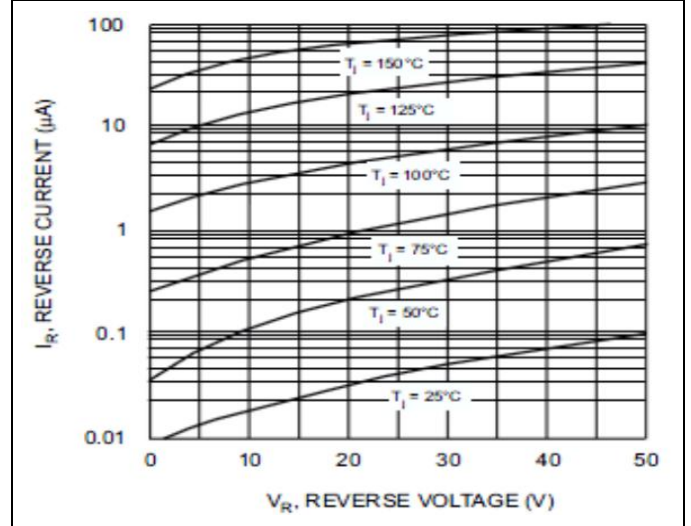


Fig.3 Typical Capacitance

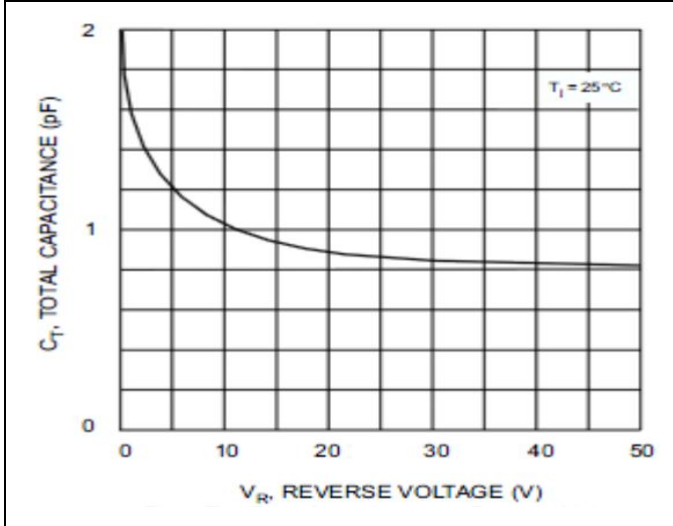


Fig.4 Typical Forward Characteristics

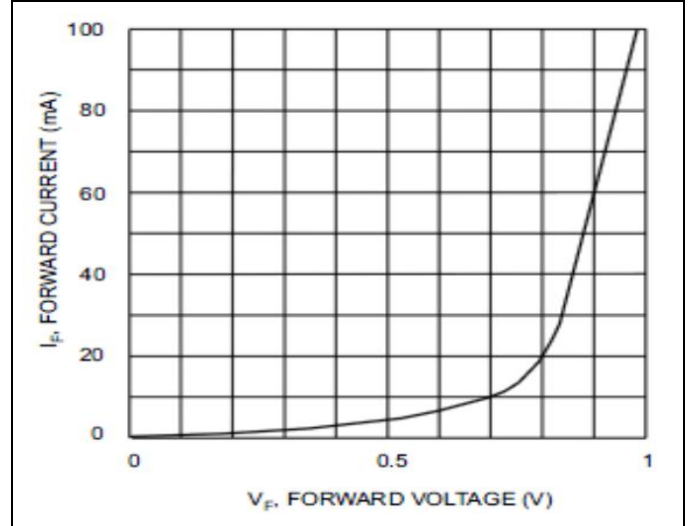
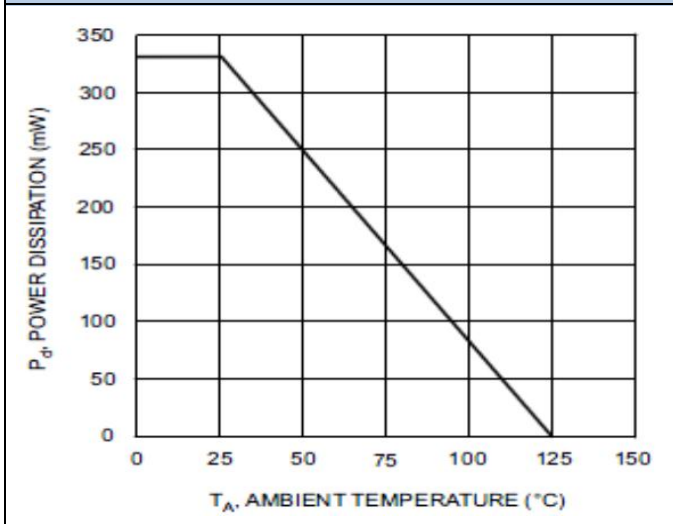
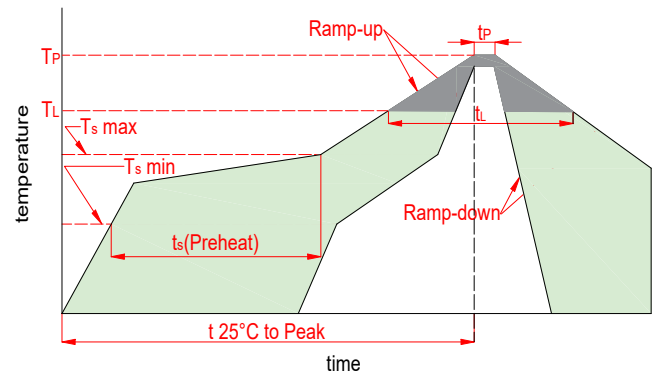


Fig.5 Power Derating Curve



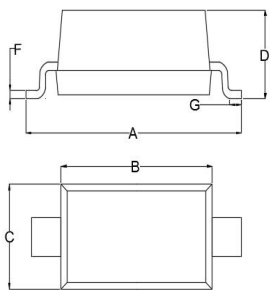


6. Soldering Parameters

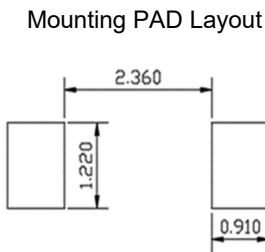


Reflow Condition		Lead-free
Pre Heat	Temp. min( $T_s$ (min))	150℃
	Temp. max( $T_s$ (min))	200℃
	Time(min to max)( $t_s$ )	60~120s
Aver. ramp up rate(Liquidus Temp.)( $T_L$ )to peak		3℃/s max
$T_s$ (max) to $T_L$ -Ramp-up Rate		3℃/s max
Reflow	Temp.( $T_L$ )(Liquidus)	217℃
	Temp.( $t_L$ )(Liquidus)	60~150s
Peak Temp.( $T_P$ )		260 <sup>+0/-5</sup> ℃
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℃

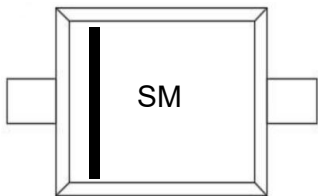
7. Dimensions



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



8. Part Marking System



9. Package Information

Package	Type	Tape Width (mm)	Quantity(pcs)
SOD-123	1N6263W	8	3000



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