

**1. Features**

SOD-123

- Low forward voltage

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:SZ
- Marking:marked on body.

**3. Maximum Ratings**

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

Characteristic	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	28	V
Forward Continuous Current	I_F	1	A
Peak Forward Surge Current (at $t_p \leq 8.3$ ms)	I_{FSM}	5	A
Power Dissipation	P_D	350	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	285	°C/W
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	$V_{(BR)R}$	$I_R = 1\text{mA}$	40	-	-	V
Forward Voltage	V_F	$I_F = 0.5\text{A}$ $I_F = 0.7\text{A}$	-	-	0.51 0.55	V
Reverse Current	I_R	$V_R = 20\text{V}$	-	-	50	μA
Total Capacitance	C_T	$V_R = 10\text{V}, f = 1\text{MHz}$	-	-	20	pF



5. Rating And Characteristic Curves

Fig.1 Forward Characteristics

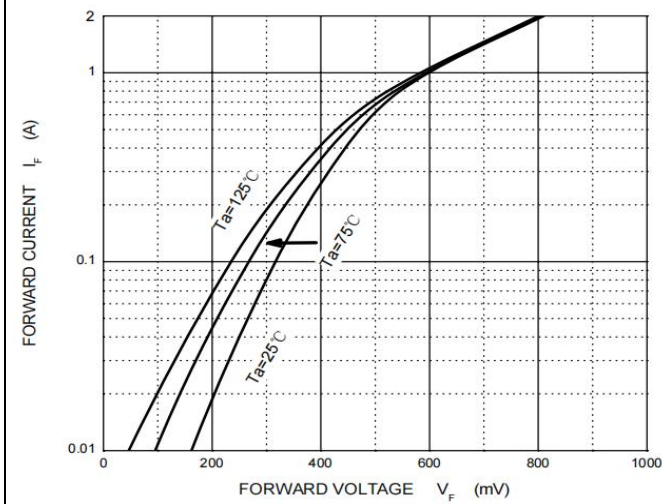


Fig.2 Reverse Characteristics

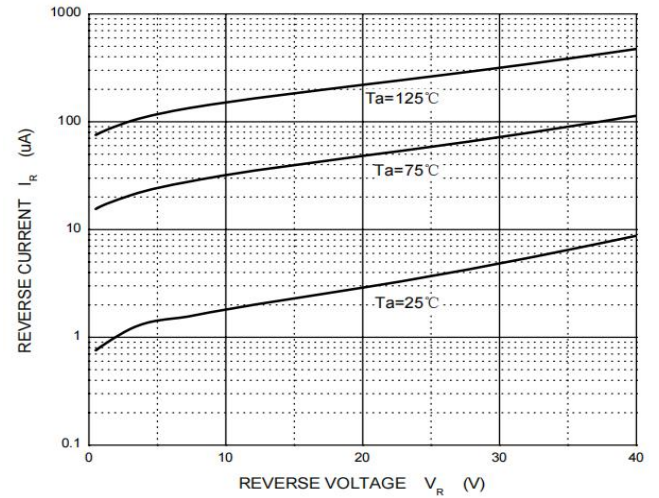


Fig.3 Capacitance Characteristics

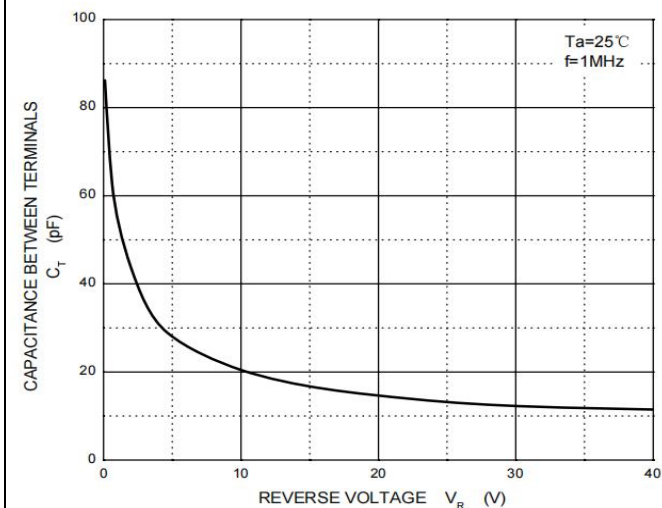
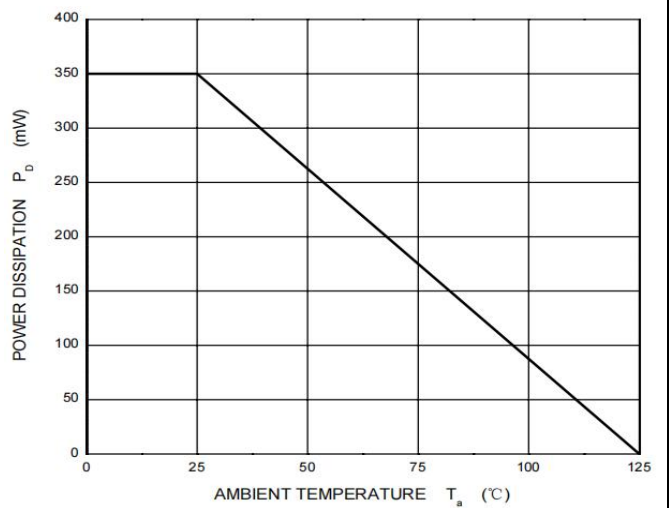
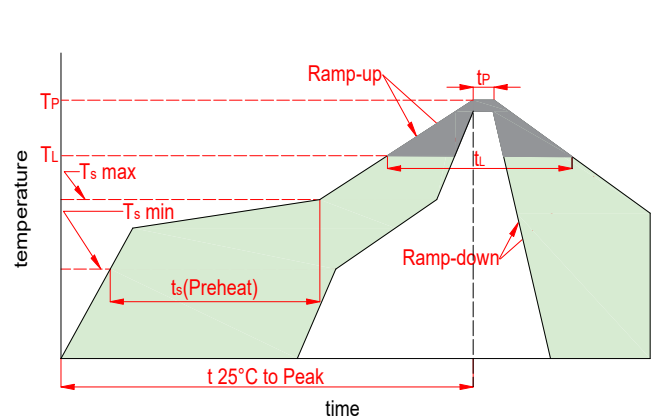


Fig.4 Power Derating Curve



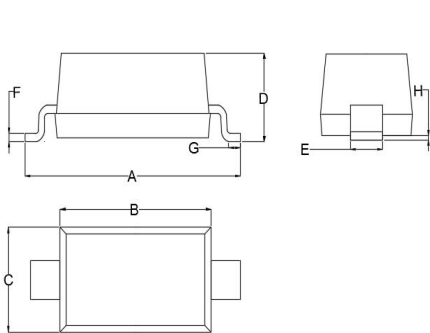


6. Soldering Parameters

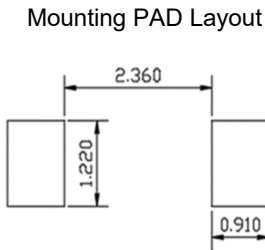


Reflow Condition		Lead-free
Pre Heat	Temp. min(T_s (min))	150℃
	Temp. max(T_s (min))	200℃
	Time(min to max)(t_s)	60~120s
Aver. ramp up rate(Liquidus Temp.)(T_L)to peak		3℃/s max
T_s (max) to T_L -Ramp-up Rate		3℃/s max
Reflow	Temp.(T_L)(Liquidus)	217℃
	Temp.(t_L)(Liquidus)	60~150s
Peak Temp.(T_P)		260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

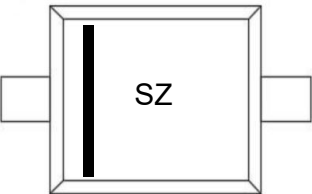
7. Dimensions



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



8. Part Marking System



9. Package Information

Package	Type	Tape Width (mm)	Quantity(pcs)
SOD-123	B1040W	8	3000



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