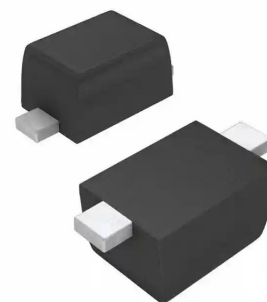




1. Features

- Extremely Fast Switching Speed
- Low Forward Voltage

SOD523



2. Mechanical Data

- Case:Molded Plastic,SOD-523.
- Epoxy:UL 94V-0 rate flame retardant.
- Terminals:Plated Leads Solderable per MIL-STD-750, Method-2026.
- Marking:JV
- Marking:marked on body.



3. Maximum Ratings

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

Characteristic	Symbol	Value	Unit
Non-Repetitive Peak Reverse Voltage	V_{RM}	30	V
DC Blocking Voltage	V_R	21	V
Forward Continuous Current	I_F	200	mA
Repetitive peak forward current	I_{FRM}	300	mA
Average Rectified Output Current	I_O	100	mA
Non-Repetitive Peak Forward Current $t = 8.3 \text{ ms}$	I_{FSM}	600	mA
Power Dissipation	P_D	150	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	667	°C/W
Junction Temperature	T_J	-40 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}	$I_R=100\mu\text{A}$	30	-	-	V
Forward Voltage	V_F	$I_F = 0.1\text{mA}$ $I_F = 1\text{mA}$ $I_F = 10\text{mA}$ $I_F = 30\text{mA}$ $I_F = 100\text{mA}$	-	-	240 320 400 500 1000	mV
Reverse Current	I_R	$V_R = 25\text{V}$	-	-	2.0	μA
Capacitance between terminals	C_T	$V_R = 1 \text{ V}, f = 1 \text{ MHz}$	-	-	10	pF
Reverse Recovery Time	t_{rr}	$I_F=I_R=10\text{mA}, I_{rr}=0.1*I_R,$ $R_L=100\Omega$	-	-	5.0	ns



5. Rating And Characteristic Curves

Fig.1 Forward Characteristics

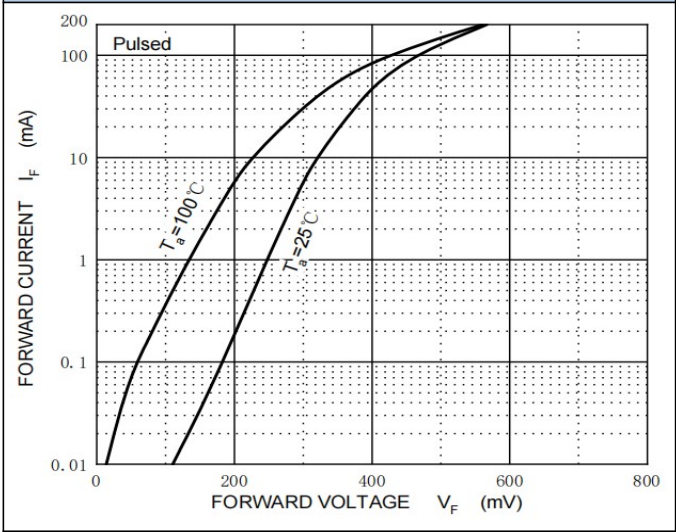


Fig.2 Reverse Characteristics

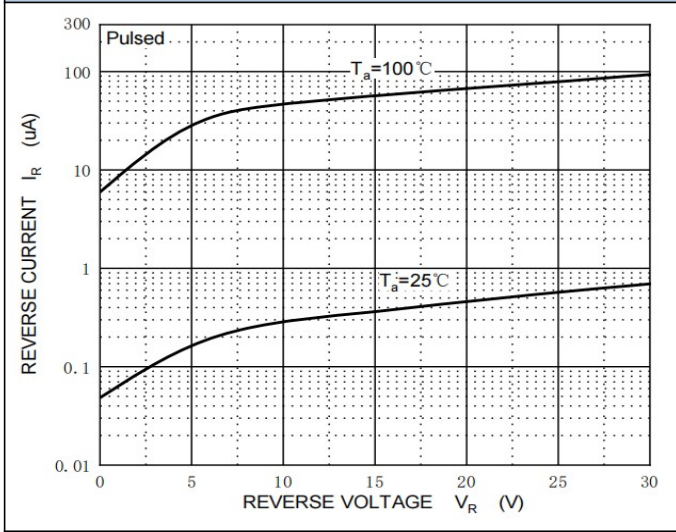


Fig.3 Capacitance Characteristics Per Diode

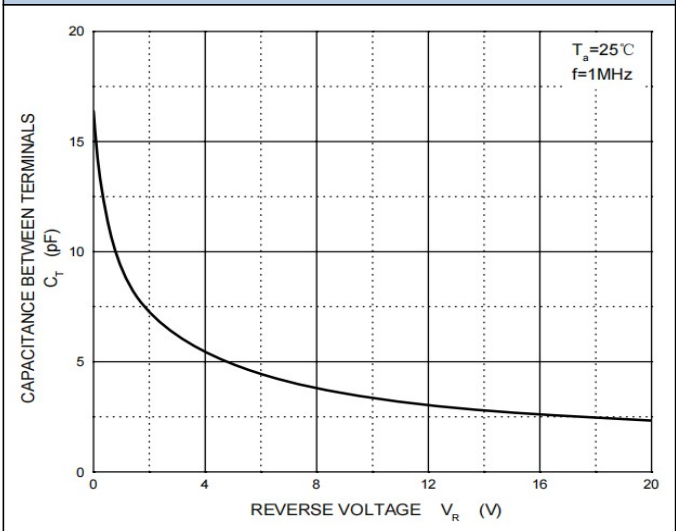
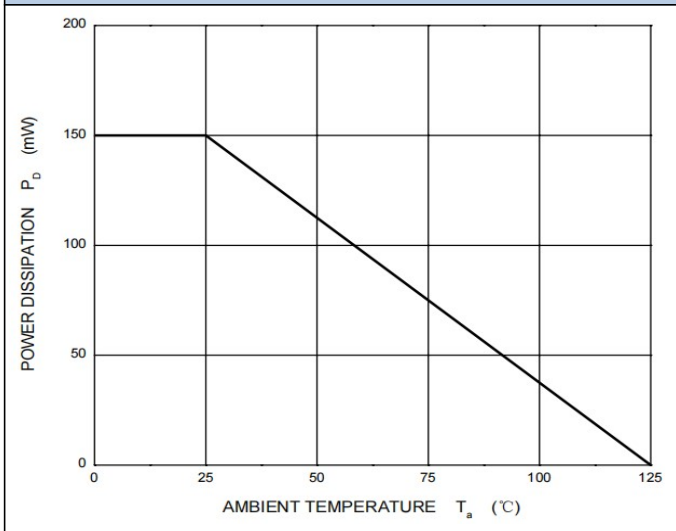
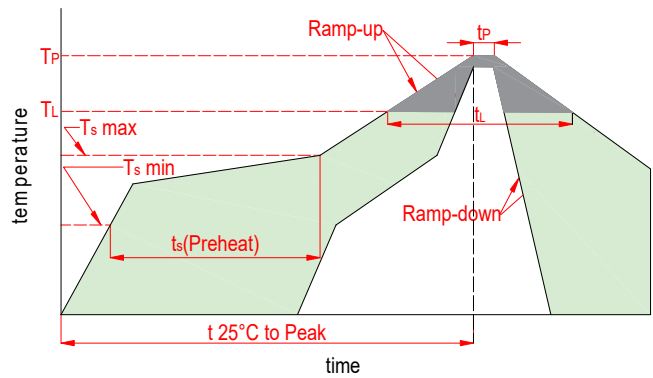


Fig.4 Power Derating Curve



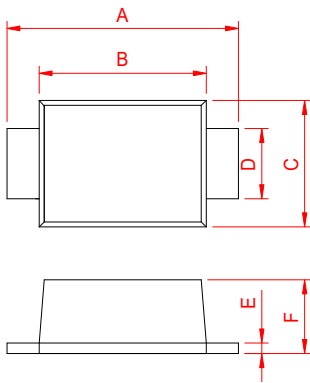


6. Soldering Parameters

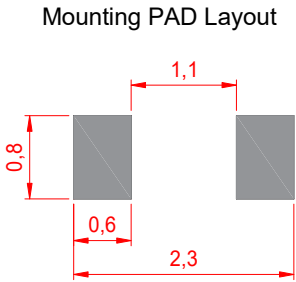


Reflow Condition		Lead-free
Pre Heat	Temp. min(Ts(min))	150℃
	Temp. max(Ts(min))	200℃
	Time(min to max)(ts)	60~120s
Aver. ramp up rate(Liquidus Temp.)(TL)to peak		3℃/s max
Ts(max) to TL-Ramp-up Rate		3℃/s max
Reflow	Temp.(TL)(Liquidus)	217℃
	Temp.(tl)(Liquidus)	60~150s
Peak Temp.(TP)		260 ^{+0/-5} ℃
Time within actual peak Temp.(tp)		30s max
Ramp-down Rate		6℃/s max
Time 25℃ to peak Tempe.(Tp)		8 minutes max
Do not exceed		260℃

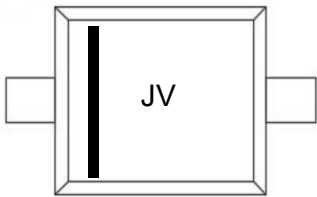
7. Dimensions



Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.059	0.067	1.50	1.70
B	0.043	0.051	1.10	1.30
C	0.030	0.033	0.75	0.85
D	0.010	0.016	0.25	0.40
E	0.003	0.006	0.08	0.15
F	0.020	0.030	0.51	0.77



8. Part Marking System



9. Package Information

Package	Type	Tape Width (mm)	Quantity(pcs)
SOD523	BAT54X	8	3000



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