



1. Features

SOD-123

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automated Insertion
- For General Purpose Switching Applications



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:BAV19W: JX; BAV20W: T2; BAV21W: T3
- Marking:marked on body.



3. Maximum Ratings

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

Characteristic	Symbol	Value	Unit
Reverse Voltage	V_R	100	V
		150	V
		200	V
Average Forward Rectified Current	$I_{F(AV)}$	200	mA
Non-Repetitive Peak Forward Current $t = 1 \text{ ms}$	I_{FSM}	2.5	A
Power Dissipation	P_{tot}	250	mW
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	625	°C/W
Operating Temperature Range	T_J	-65 to +125	°C
Storage Temperature Range	T_{stg}	-65 to +125	°C

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

Parameters	Symbol	Cindition	Min	TYP	Max	Unit
Forward Voltage	V_F	$I_F = 0.1\text{A}$ $I_F = 0.2\text{A}$	-	-	1 1.25	V
Reverse Current	I_R	$V_R = 100\text{V}$ $V_R = 150\text{V}$ $V_R = 200\text{V}$	-	-	100 100 100	nA
Total Capacitance	C_{tot}	$V_R = 0 \text{ V}, f = 1 \text{ MHz}$	-	-	5	pF
Reverse Recovery Time	T_{rr}	$I_F=I_R=30\text{mA}$ $I_{rr}=0.1*I_R, R_L=100\Omega$	-	-	50	nS



5. Rating And Characteristic Curves

Fig.1 Forward Characteristics

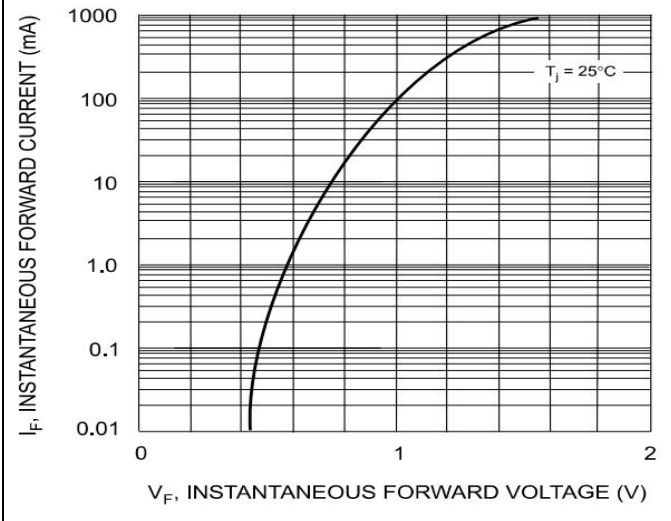


Fig.2 Reverse Characteristics(BAV19W)

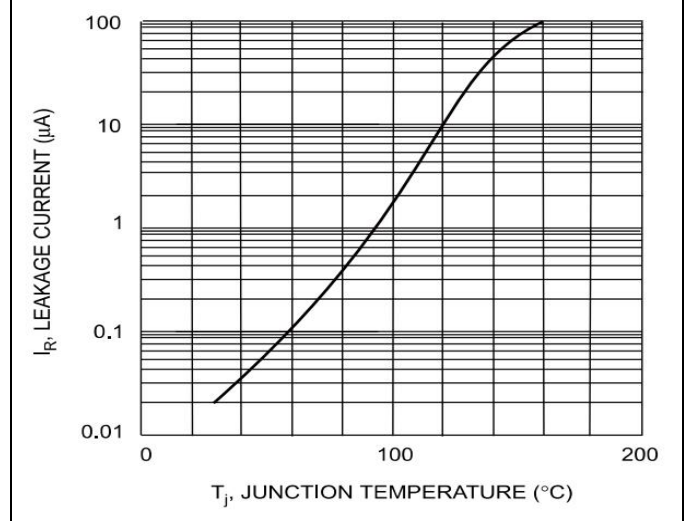
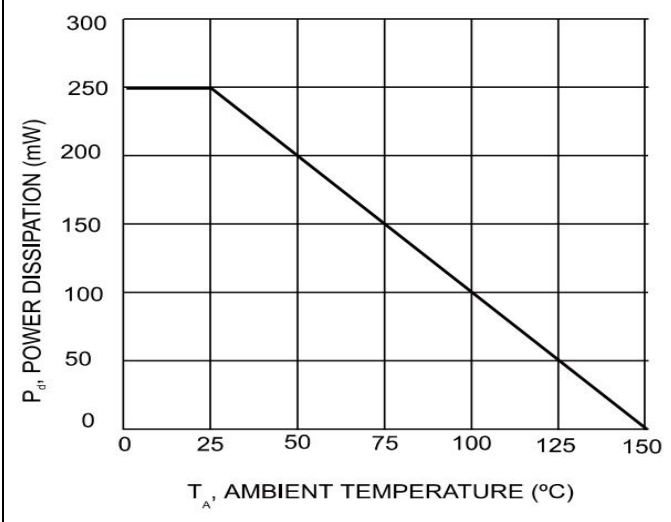
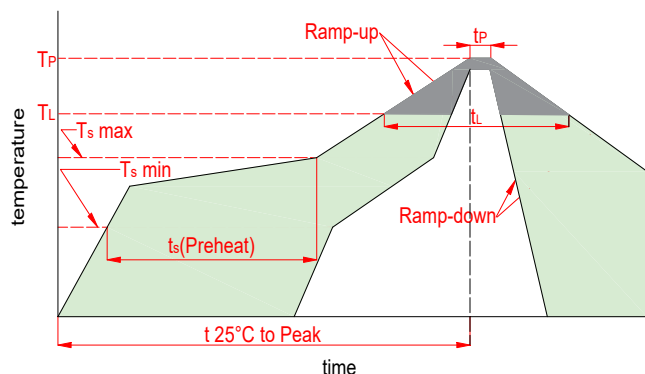


Fig.3 Power Derating Curve



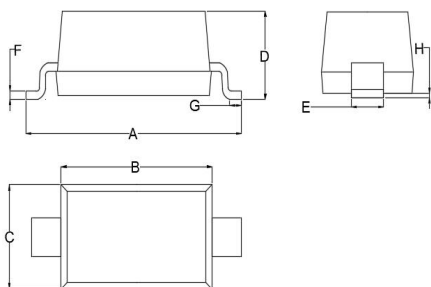


6. Soldering Parameters



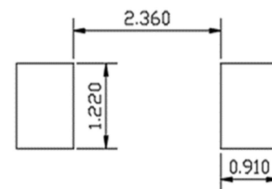
Reflow Condition		Lead-free
Pre Heat	Temp. min(T_s (min))	150°C
	Temp. max(T_s (min))	200°C
	Time(min to max)(t_s)	60~120s
Aver. ramp up rate(Liquidus Temp.)(T_L)to peak		3°C/s max
T_s (max) to T_L -Ramp-up Rate		3°C/s max
Reflow	Temp.(T_L)(Liquidus)	217°C
	Temp.(t_L)(Liquidus)	60~150s
Peak Temp.(T_P)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

7. Dimensions

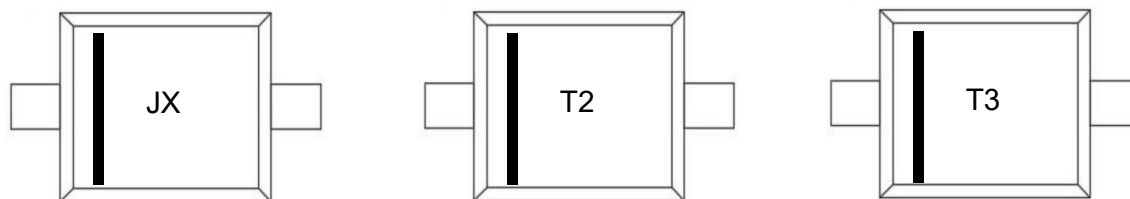


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.136	0.152	3.450	3.850
B	0.100	0.110	2.550	2.800
C	0.059	0.067	1.500	1.700
D	0.035	0.049	0.900	1.250
E	0.018	0.028	0.450	0.700
F	0.004	0.006	0.090	0.150
G	0.008	0.020	0.200	0.500
H	0.000	0.004	0.010	0.100

Mounting PAD Layout



8. Part Marking System



9. Package Information

Package	Type	Marking	Tape Width (mm)	Quantity(pcs)
SOD-123	BAV19W	JX	8	3000
SOD-123	BAV20W	T2	8	3000
SOD-123	BAV21W	T3	8	3000



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