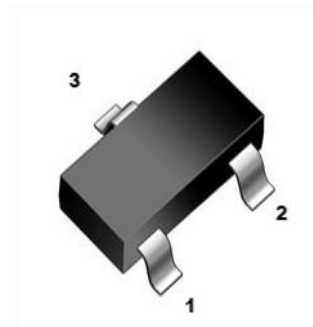




1. Features

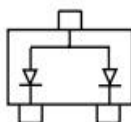
- Fast Switching Speed
- For General Purpose Switching Applications
- High Conductance

SOT-523

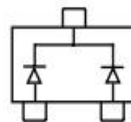


2. Mechanical Data

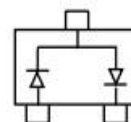
- Case: Molded Plastic, SOT-523.
- Epoxy: UL 94V-0 rate flame retardant.
- Terminals: Plated Leads Solderable per MIL-STD-750, Method-2026.
- Marking: marked on body.



BAW56T Marking: A1



BAV70T Marking: A4



BAV99T Marking: A7

3. Maximum Ratings

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

Characteristic	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	85	V
Reverse Voltage	V_R	75	V
Power Dissipation	P_D	150	mW
Junction Temperature	T_J	-55 to +150	°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	$V_{(BR)}$	$I_R = 1\mu\text{A}$	85	-	-	V
Forward Voltage	V_F	$I_F = 1\text{mA}$ $I_F = 10\text{mA}$ $I_F = 50\text{mA}$ $I_F = 150\text{mA}$	-	-	0.715 0.855 1 1.25	V
Reverse Current	I_R	$V_R = 25\text{V}$ $V_R = 75\text{V}$	-	-	30 2	nA μA
Diode Capacitance	C_D	$V_R = 0\text{V}, f = 1\text{MHz}$	-	-	1.5	pF
Reverse Recovery Time	t_{rr}	$I_F = I_R = 10\text{mA}, I_{rr} = 0.1 \cdot I_R,$ $R_L = 100\Omega$	-	-	4	ns



5. Rating And Characteristic Curves

Fig.1 Forward Characteristics

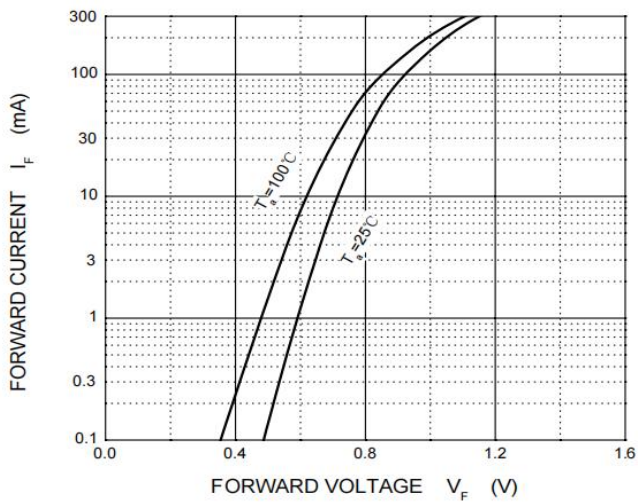


Fig.2 Reverse Characteristics

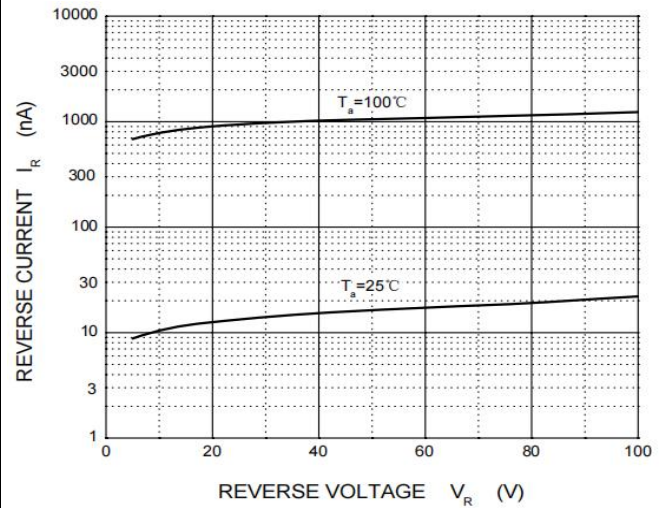


Fig.3 Capacitance Characteristics

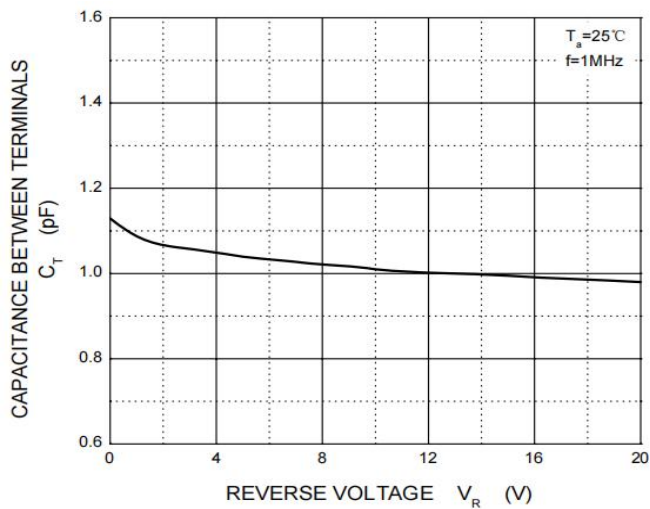
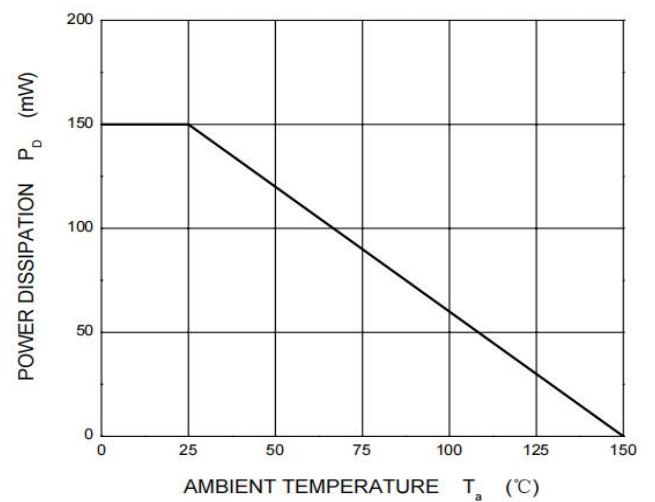
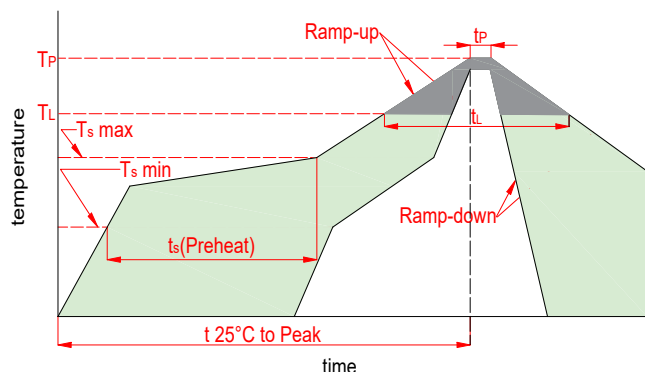


Fig.4 Power Derating Curve



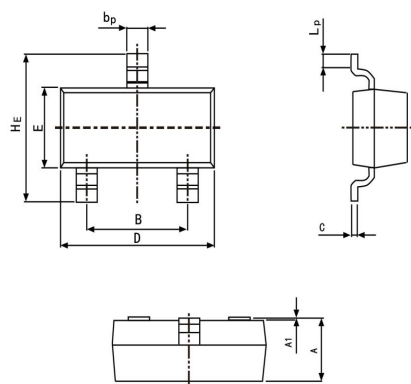


6. Soldering Parameters



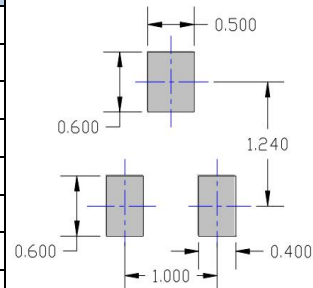
Reflow Condition		Lead-free
Pre Heat	Temp. min(T_s (min))	150℃
	Temp. max(T_s (min))	200℃
	Time(min to max)(t_s)	60~120s
Aver. ramp up rate(Liquidus Temp.)(T_L)to peak		3℃/s max
T_s (max) to T_L -Ramp-up Rate		3℃/s max
Reflow	Temp.(T_L)(Liquidus)	217℃
	Temp.(t_L)(Liquidus)	60~150s
Peak Temp.(T_P)		260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



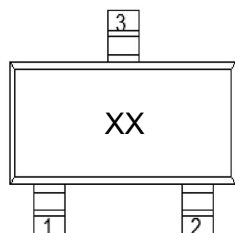
Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.028	0.035	0.70	0.90
B	0.035	0.043	0.90	1.10
bp	0.006	0.014	0.15	0.35
C	0.004	0.008	0.10	0.20
D	0.059	0.067	1.50	1.70
E	0.028	0.035	0.70	0.90
HE	0.057	0.069	1.45	1.75
A1	0.000	0.004	0.00	0.10
LP	0.010	0.018	0.26	0.46

Mounting PAD Layout



Unit: mm

8. Part Marking System



9. Package Information

Package	Part Number	Marking Code	Tape Width(mm)	Quantity(pcs)
SOT-523	BAW56T	A1	8	3000
SOT-523	BAV70T	A4	8	3000
SOT-523	BAV99T	A7	8	3000



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