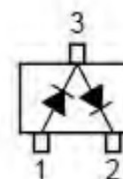
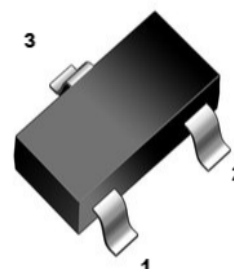




1. Features

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

SOT323



2. Mechanical Data

- Case:Molded Plastic,SOT-323.
- Epoxy:UL 94V-0 rate flame retardant.
- Terminals:Plated Leads Solderable per MIL-STD-750, Method-2026.
- Marking:A7
- 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}	85	V
Reverse Voltage	V _R	75	V
Continuous Forward Current(Double Diode Loaded)	I _F	130	mA
Continuous Forward Current(Single Diode Loaded)	I _F	150	mA
Repetitive Peak Forward Current	I _{FRM}	500	mA
Non-Repetitive Peak Forward Current t = 1 s t = 1 ms t = 1 μs	I _{FSM}	0.5	A
		1	
		4	
Power Dissipation	P _{tot}	200	mW
Junction Temperature	T _J	-55 to+150	°C
Storage Temperature Range	T _{stg}	-55 to+150	°C

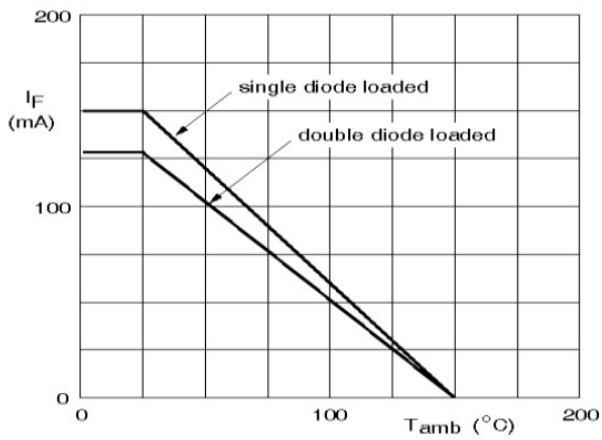
4. Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameters	Symbol	Cindition	Min	TYP	Max	Unit
Forward Voltage	V_F	$I_F = 1\text{mA}$	-	-	0.715	V
		$I_F = 10\text{mA}$			0.855	
		$I_F = 50\text{mA}$			1	
		$I_F = 150\text{mA}$			1.25	
Reverse Current	I_R	$V_R = 25\text{V}$	-	-	30	nA
		$V_R = 75\text{V}$	-	-	1	μA
		$V_R = 25\text{V}, T_J=150^\circ\text{C}$	-	-	30	μA
		$V_R = 75\text{V}, T_J=150^\circ\text{C}$	-	-	50	μA
Diode Capacitance	C_d	$V_R = 0\text{ V}, f = 1\text{ MHz}$	-	-	1.5	pF
Reverse Recovery Time	t_{rr}	$I_F=I_R=10\text{mA}, I_{tr}=0.1*I_R,$ $R_L=100\Omega$	-	-	4	ns



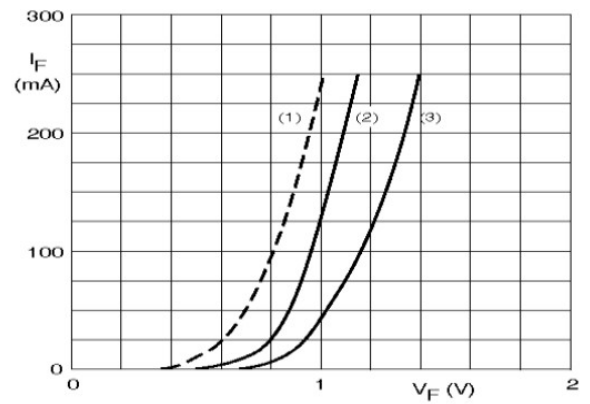
5. Rating And Characteristic Curves

Fig.1 $I_F - T_a$



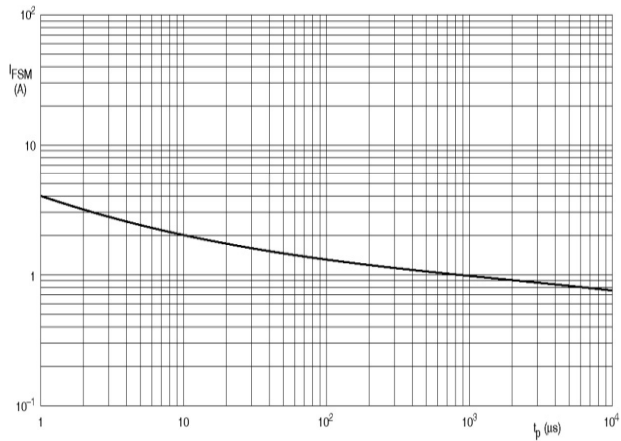
Device mounted on an FR4 printed-circuit board.

Fig.2 $I_F - V_F$



- (1) $T_J = 150^{\circ}C$; typical values.
- (2) $T_J = 25^{\circ}C$; typical values.
- (3) $T_J = 25^{\circ}C$; maximum values.

Fig.3 $I_{FSM} - t_p$



Based on square wave currents.
 $T_J = 25^{\circ}C$ prior to surge.

Fig.4 $I_R - T_J$

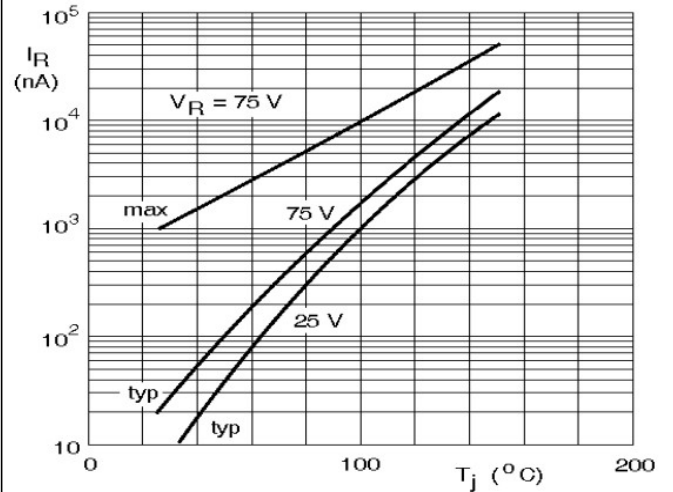
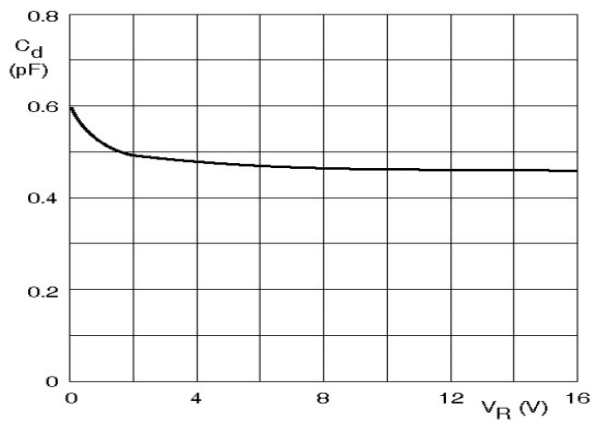


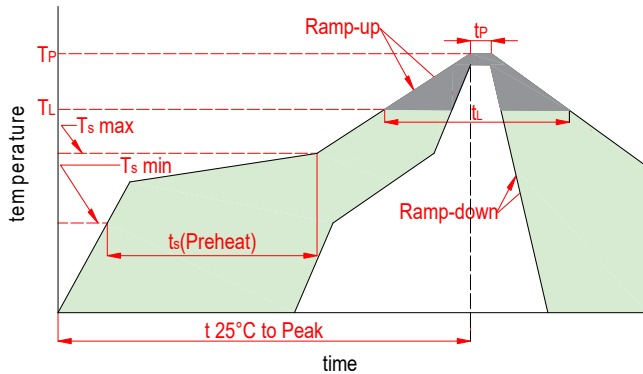
Fig.5 $C_d - V_R$



$f = 1 \text{ MHz}$; $T_J = 25^{\circ}C$.

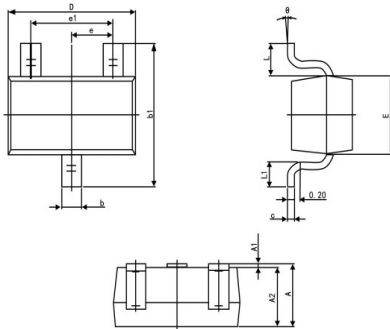


6. Soldering Parameters



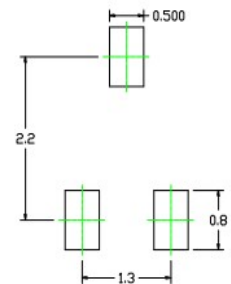
Reflow Condition		Lead-free
Pre Heat	Temp. min(T_s (min))	150℃
	Temp. max(T_s (min))	200℃
	Time(min to max)(t_s)	60~120s
Aver. ramp up rate(Liquidus Temp.)(T_L)to peak		3℃/s max
T_s (max) to T_L -Ramp-up Rate		3℃/s max
Reflow	Temp.(T_L)(Liquidus)	217℃
	Temp.(t_L)(Liquidus)	60~150s
Peak Temp.(T_P)		260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

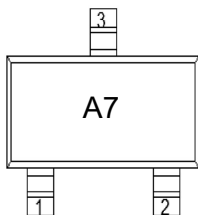


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.035	0.043	0.900	1.100
A1	0.000	0.004	0.000	0.100
A2	0.035	0.039	0.900	1.000
b	0.008	0.016	0.200	0.400
c	0.003	0.006	0.080	0.150
D	0.079	0.087	2.000	2.200
E	0.045	0.053	1.150	1.350
E1	0.085	0.096	2.150	2.450
e1	0.047	0.055	1.200	1.400
L1	0.010	0.018	0.260	0.460

Mounting PAD Layout



8. Part Marking System



9. Package Information

Package	Part Number	Marking Code	Tape Width(mm)	Quantity(pcs)
SOT323	BAV99W	A7	8	3000



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