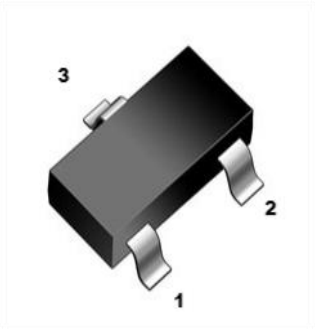
BAV23 THRU BAV23CA

SWITCHING DIODE

1. Features

SOT-23



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

2. Mechanical Data

- Case:Molded Plastic,SOT-23.
- Epoxy:UL 94V-0 rate flame retardant.
- Terminals:Plated Leads Solderable per MIL-STD-750, Method-2026.
- Marking:marked on body.


BAV23:HC


BAV23SE:PY


BAV23CC:PZ


BAV23CA:RA

3. Maximum Ratings

Electrical Characteristics Rating at 25℃ ambient temperature unless otherwise specified.

Characteristic	Symbol	Value	Unit
Maximum Repetitive Reverse Voltage	V_{RRM}	250	V
Reverse Voltage	V_R	200	V
Forward Current	$I_{F(AV)}$	400	mA
Repetitive Peak Forward Current	I_{FRM}	625	mA
Non-repetitive Peak Forward Surge Curren @ t = 10 ms @ t = 100 μs @ t = 1 μs	I_{FSM}	1.7 3 9	A
Power Dissipation	P_{tot}	350	mW
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	357	℃/W
Thermal Resistance from Junction to Ambient Case	$R_{\theta JC}$	286	℃/W
Operating Junction Temperature Range	T_J	-65 to+125	℃
Storage Temperature Range	T_{stg}	-65 to+150	℃

4. Electrical Characteristics (T_a=25℃ unless otherwise noted)

Parameters	Symbol	Cindition	Min	TYP	Max	Unit
Reverse Breakdown Voltage	$V_{(BR)R}$	I_R = 100μA	250	-	-	V
Forward Voltage	V_F	I_F =100mA I_F =200mA	-	-	1 1.25	V
Reverse Current	I_R	V_R = 200V,T_J=25℃ V_R = 200V,T_J=150℃	-	-	100 100	nA μA
Total Capacitance	C_{tot}	V_R = 0 V, f = 1 MHz	-	-	5	pF
Reverse Recovery Time	t_{rr}	I_F = I_R = 30 mA to I_{rr} = 3 mA, R_L = 100 Ω	-	-	50	ns

5. Rating And Characteristic Curves

Fig.1 Power Derating Curve

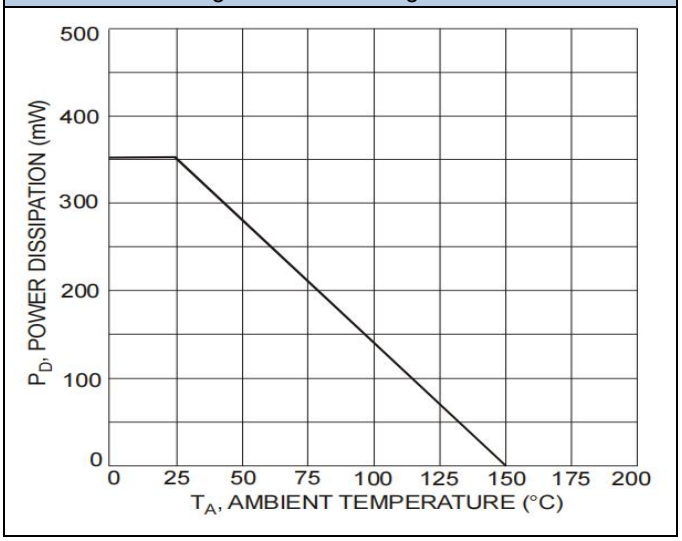


Fig.2 Typical Forward Characteristics

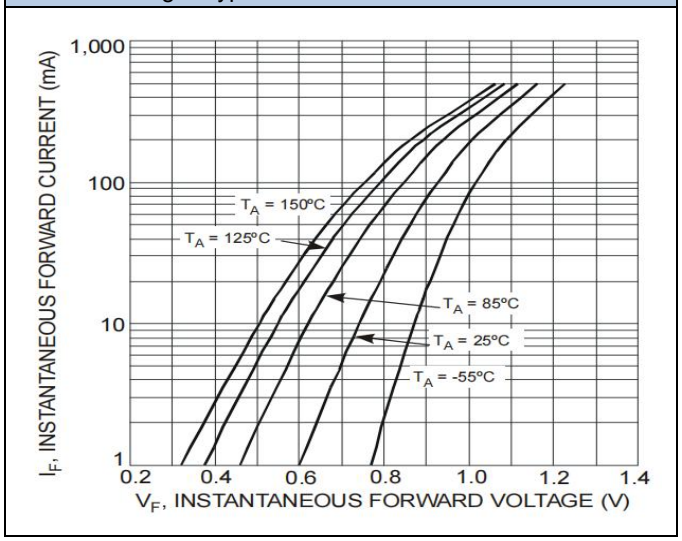


Fig.3 Typical Reverse Characteristics

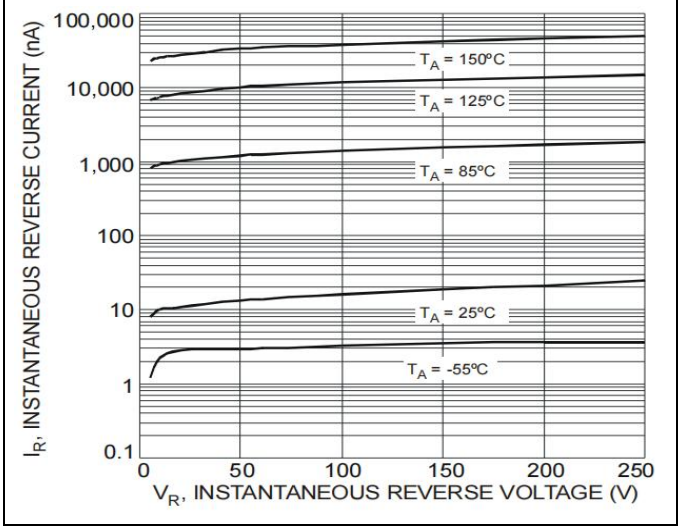
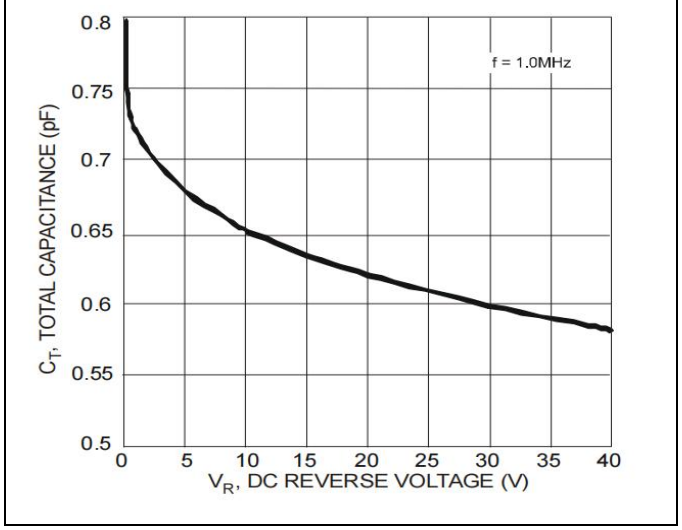
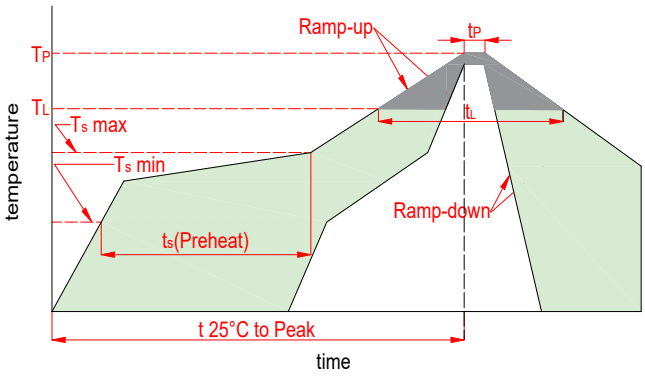


Fig.4 Typical Total Capacitance vs. Reverse Voltage

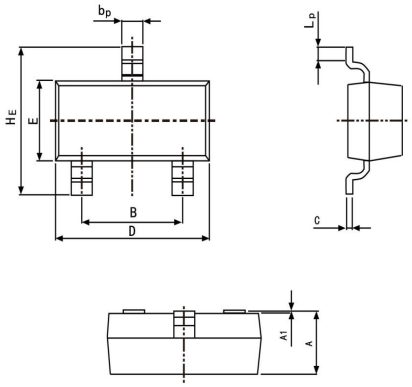


6. Soldering Parameters



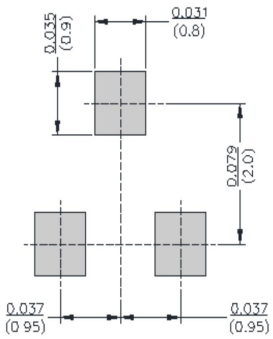
Reflow Condition		Lead-free
Pre Heat	Temp. min(T_s(min))	150℃
	Temp. max(T_s(min))	200℃
	Time(min to max)(t_s)	60~120s
Aver. ramp up rate(Liquidus Temp.)(T_L)to peak		3℃/s max
T_S(max) to T_L-Ramp-up Rate		3℃/s max
Reflow	Temp.(T_L)(Liquidus)	217℃
	Temp.(t_L)(Liquidus)	60~150s
Peak Temp.(T_P)		$260^{+0/-5}$℃
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

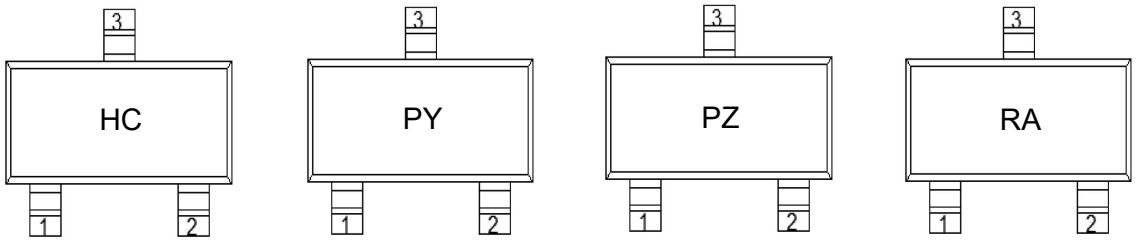


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.035	0.045	0.90	1.15
B	0.070	0.081	1.78	2.05
bp	0.012	0.020	0.30	0.51
C	0.003	0.007	0.08	0.18
D	0.110	0.118	2.80	3.00
E	0.047	0.055	1.20	1.40
HE	0.087	0.110	2.20	2.80
A1	0.000	0.004	0.00	0.10
LP	0.008	0.020	0.20	0.50

Mounting PAD Layout



8. Part Marking System



9. Package Information

Package	Part Number	Marking	Tape Width(mm)	Quantity(pcs)
SOT-23	BAV23	HC	8	3000
SOT-23	BAV23SE	PY	8	3000
SOT-23	BAV23CC	PZ	8	3000
SOT-23	BAV23CA	RA	8	3000

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