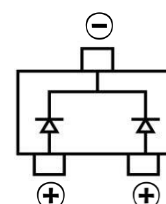


## FEATURES

- Fast Switching
- High Conductance
- Surface Mount device
- For General Purpose Switching Applications



**SOT-23**



BAV70:A4

## MECHANICAL DATA

- Case: SOT-23
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.008 grams (approximate)

## MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

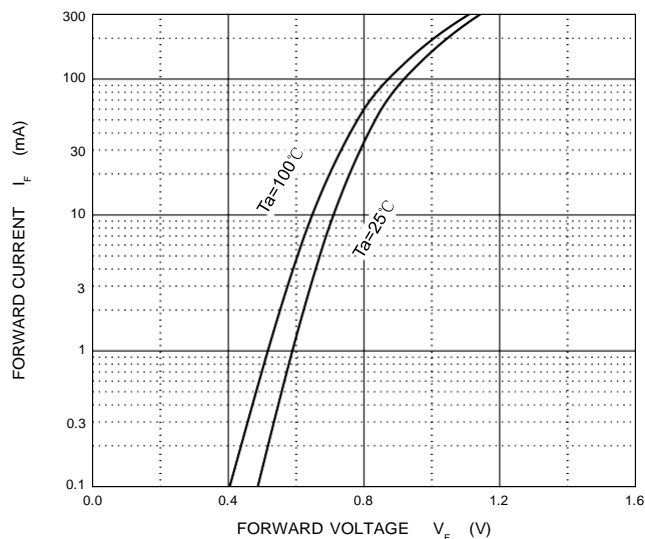
Parameter	Symbol	Value	Unit
Reverse Voltage	$V_R$	70	V
Forward Current	$I_F$	200	mA
Non-Repetitive Peak Forward Surge Current @ $t=8.3\text{ms}$	$I_{FSM}$	2.0	A
Power Dissipation	$P_D$	225	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	556	$^\circ\text{C/W}$
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-55 ~+150	$^\circ\text{C}$

## ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise specified)

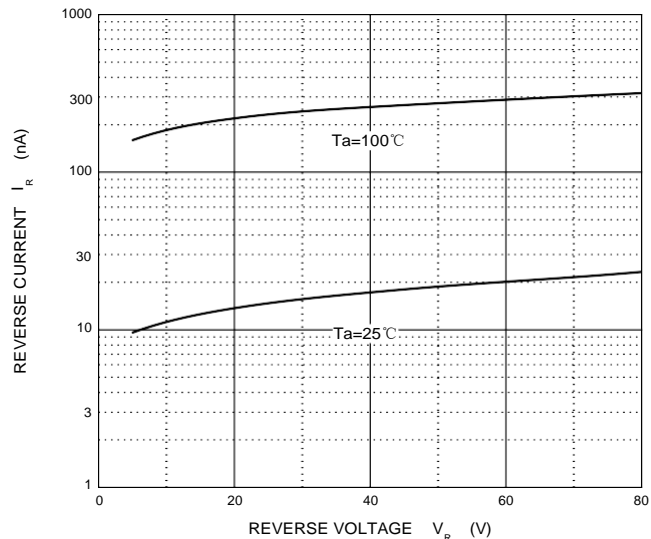
Parameter	Symbol	Min	Max	Unit	Conditions
Reverse breakdown voltage	$V_{(BR)}$	70		V	$I_R=100\mu\text{A}$
Reverse voltage leakage current	$I_R$		2.5	$\mu\text{A}$	$V_R=70\text{V}$
Forward voltage	$V_{F1}$		0.715	V	$I_{F1}=1\text{ mA}$
	$V_{F2}$		0.855	V	$I_{F2}=10\text{ mA}$
	$V_{F3}$		1	V	$I_{F3}=50\text{mA}$
	$V_{F4}$		1.25	V	$I_{F4}=150\text{ mA}$
Diode capacitance	$C_D$		1.5	pF	$V_R=0\text{V}, f=1\text{MHz}$
Reverse recovery time	$T_{rr}$		6	nS	$I_F=I_R=10\text{mA}$ $I_{rr}=0.1 \times I_R$ $R_L=100\Omega$

## Typical Characteristics

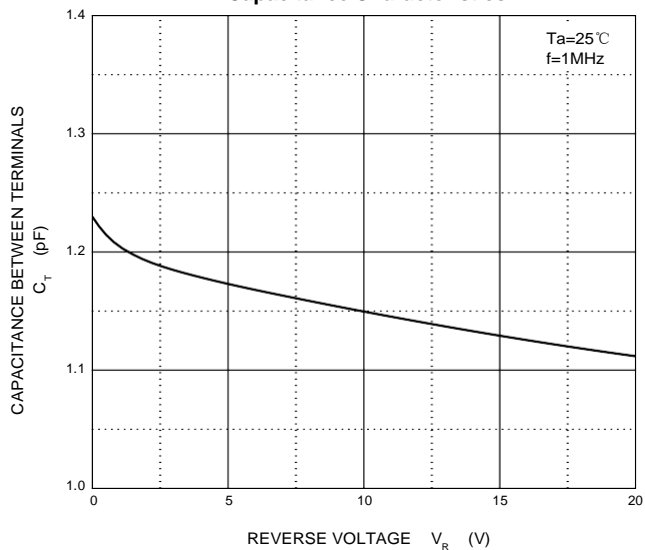
**Forward Characteristics**



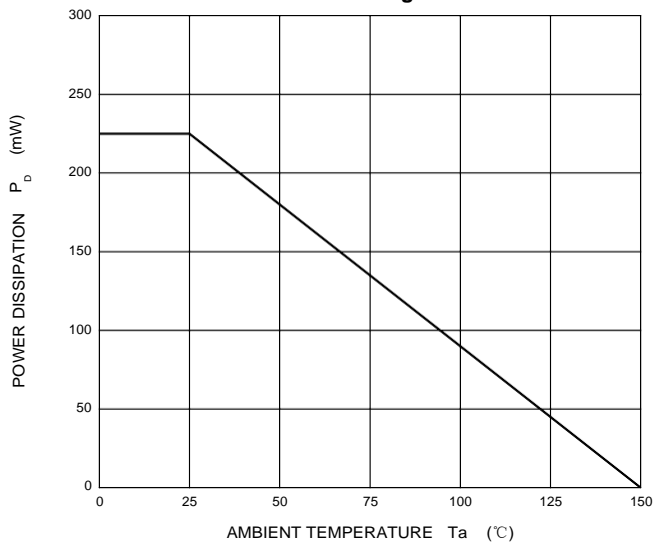
**Reverse Characteristics**

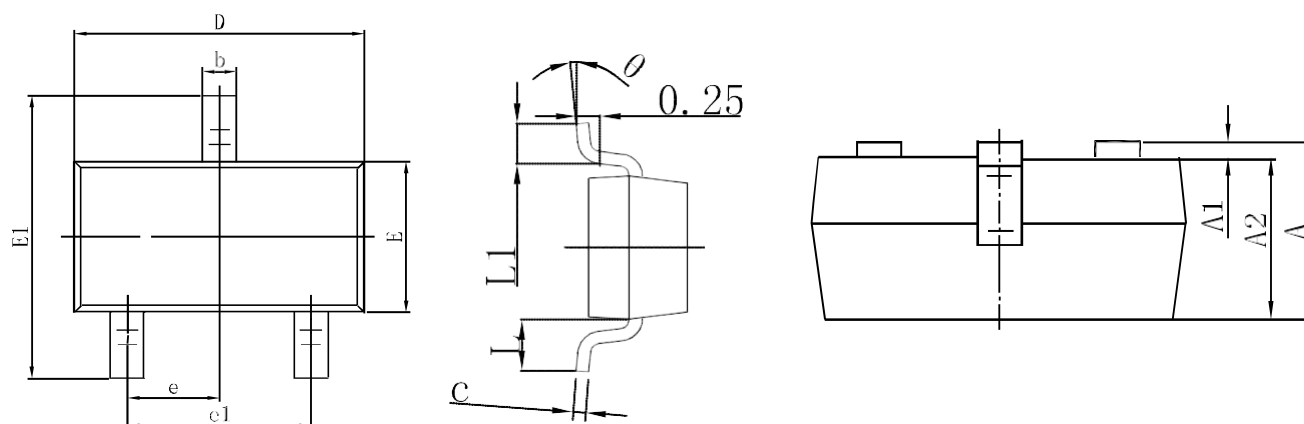


**Capacitance Characteristics**

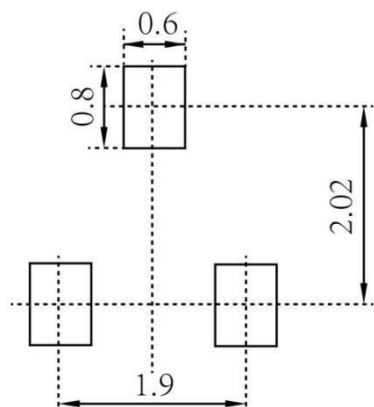


**Power Derating Curve**

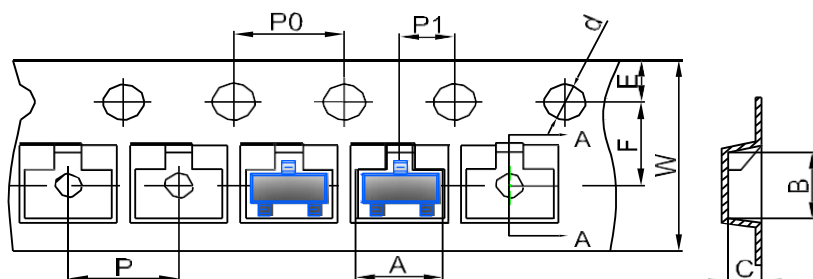


**SWITCHING DIODE**
**SOT-23 Package Outline Dimensions**


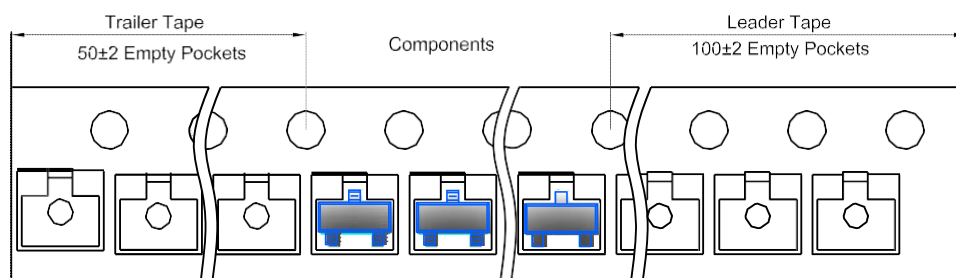
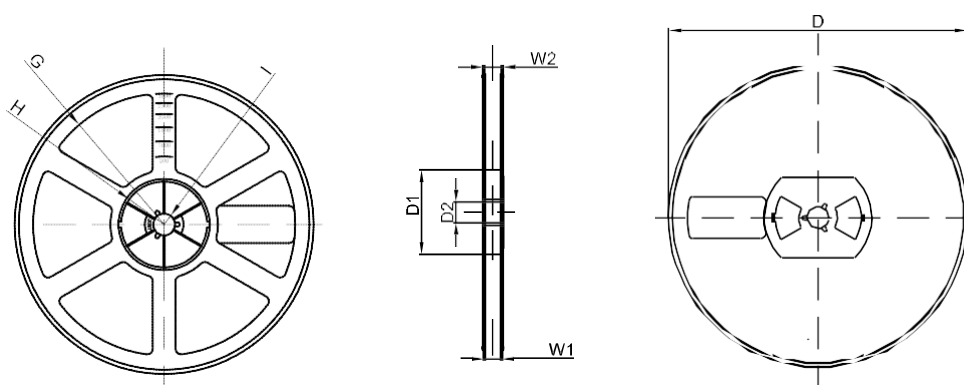
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
$\theta$	0°	8°	0°	8°

**SOT-23 Suggested Pad Layout**

**Note:**

1. Controlling dimension: in millimeters
2. General tolerance:  $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

**SWITCHING DIODE**
**SOT-23 Tape and Reel**
**SOT-23 Embossed Carrier Tape**


	DIMENSIONS ARE IN MILLIMETER									
TYPE	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

**SOT-23 Tape Leader and Trailer**

**SOT-23 Reel**


	DIMENSIONS ARE IN MILLIMETER							
REEL OPTION	D	D1	D2	G	H	I	W1	W2
7" DIA	Ø178	54.40	13.00	R78	R25.60	R6.50	9.50	12.30
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1