

## SOT-23 Fast Switching Diodes

### Features

- $V_R=100V$
- $I_{F(AV)}=200mA$
- Extremely Fast Switching Speed
- Surface mount package ideally suited for automatic insertion
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260°C

### Applications

- For General Purpose Switching Applications

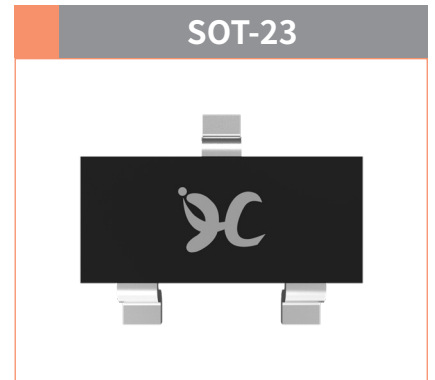
### Mechanical Data

- Case: SOT-23  
Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Cathode line denotes the cathode end

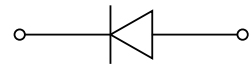
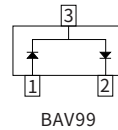
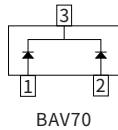
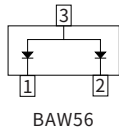
### Function Diagram

**Reverse Voltage**  
100 V

**Forward Current**  
0.2 Ampere



Marking:  
BAW56:A1  
BAV70:A4  
BAV99:A7



### Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Maximum repetitive peak reverse voltage	$V_{RRM}$	V	100
Maximum RMS Voltage	$V_{RMS}$	V	75
Reverse Breakdown voltage @ $I_r=100\mu A$	$V_{(BR)R}$	V	100
Maximum Average Forward Rectified Current	$I_{F(AV)}$	mA	200
Non-Repetitive peak forward current	$I_{FM}$	mA	400
Non-Repetitive Peak forward surge current @ $t_p=1.0ms$	$I_{FSM}$	A	2.0
Power Dissipation	$P_d$	mW	225
Storage temperature	$T_{stg}$	°C	-55 ~+150
Junction temperature	$T_j$	°C	-55 ~+150
Typical thermal resistance	$R_{\theta J-A}$	°C /W	500

● **Electrical Characteristics** (Ta=25°C Unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	Min	Type	Max
Maximum instantaneous forward voltage	$I_F=1.0\text{mA}$	$V_F$	V	—	—	0.715
	$I_F=10\text{mA}$			—	—	0.855
	$I_F=50\text{mA}$			—	—	1.0
	$I_F=150\text{mA}$			—	—	1.25
Reverse Leakage Current	$V_R=70\text{V}$	$I_R$	$\mu\text{A}$	—	—	2.5
Total capacitance	$V_R=0\text{V}, f=1\text{MHz}$	$C_T$	pF	—	—	4.0
Maximum reverse recovery time	$I_F=I_R=10\text{mA}, I_{rr}=0.1 \times I_R, R_L=100\Omega$	$T_{rr}$	ns	—	—	4.0

● **Ratings And Characteristics Curves** (Ta=25°C Unless otherwise specified)

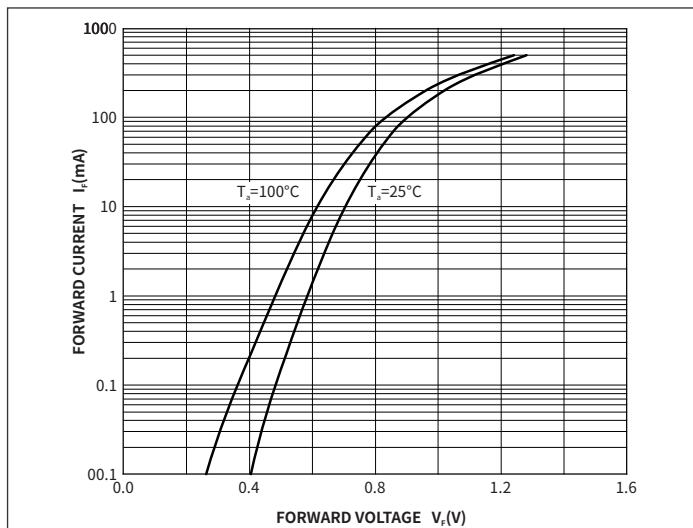


Fig.1 Typical Instantaneous Forward Characteristics

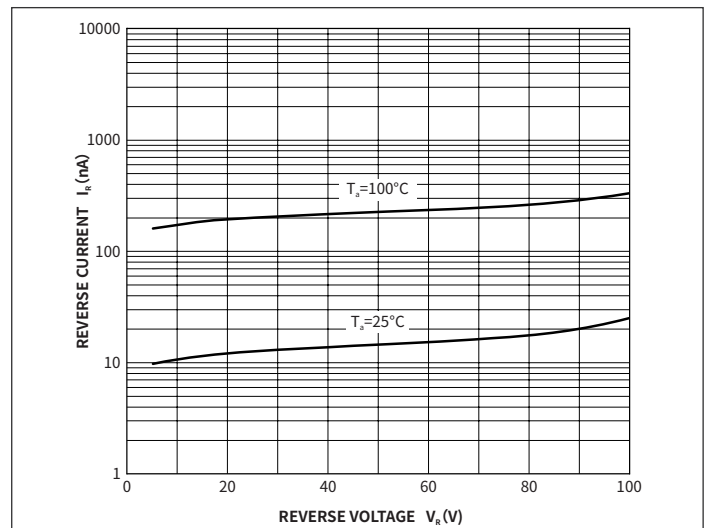


Fig.2 Typical Reverse Characteristics

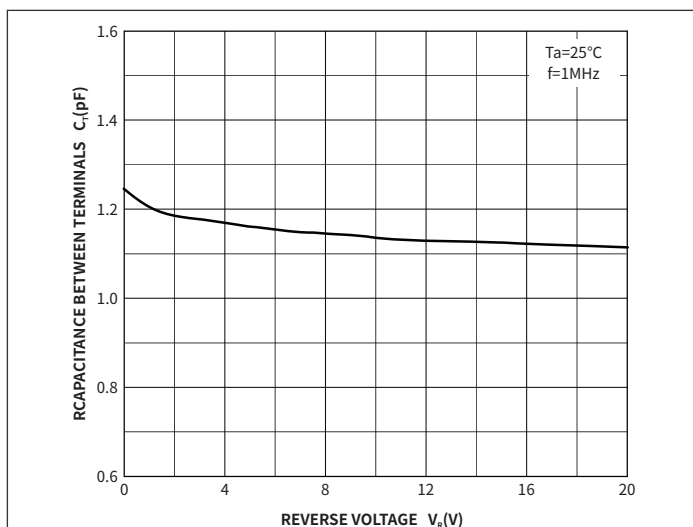


Fig.3 Typical Junction Capacitance

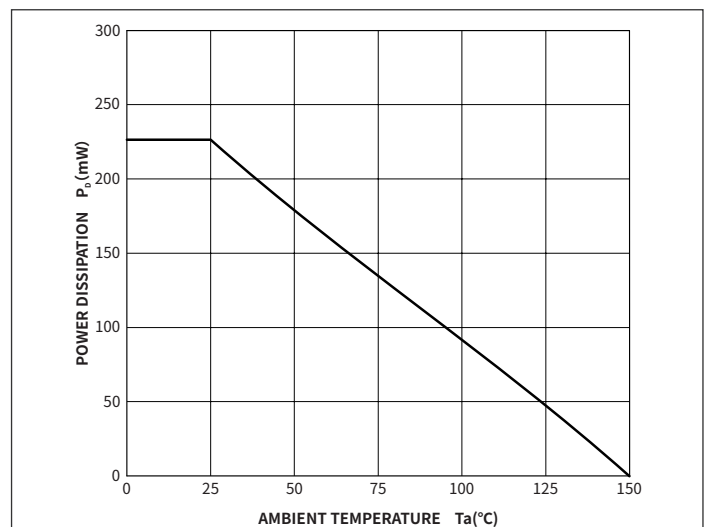


Fig.4 Power Derating Curve

# BAW56 & BAV70 & BAV99

FAST SWITCHING DIODES

## ● Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOT-23	R1	0.008	3000	45000	180000	7"

## ● Package Outline Dimensions (SOT-23)

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.90	1.15	0.035	0.045
A1	-	0.10	-	0.004
A2	0.90	1.05	0.035	0.041
b	0.30	0.50	0.012	0.020
c	0.10	0.20	0.004	0.008
D	2.80	3.00	0.110	0.118
E	1.20	1.40	0.047	0.055
E1	2.25	2.55	0.089	0.100
e	0.950TYP		0.037TYP	
e1	1.80	2.00	0.071	0.079
L	0.550REF		0.022REF	
L1	0.30	0.50	0.012	0.020
$\theta$	-	8°	-	8°

## ● Suggested Pad Layout

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	0.75	0.85	0.030	0.033
K	0.85	0.95	0.033	0.037
M	1.95	2.05	0.077	0.081
N	1.85	1.95	0.073	0.077