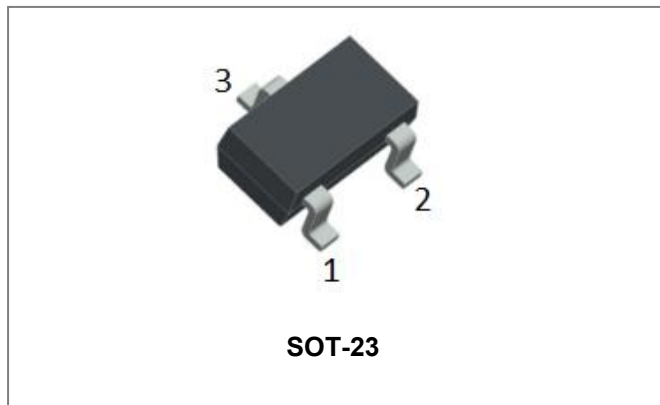


## BAV99 SWITCHING DIODE



### Features

- High Conductance
- Fast Switching
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose and Switching
- Plastic Material - UL Recognition Flammability Classification 94V-0
- Terminals finish: 100% Pure Tin
- This is a Halogen Free Device
- "-A" is an AEC-Q101 qualified device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

### Schematic & Pin Configuration



### Mechanical Characteristics

- Case: SOT-23, Molded Plastic
- Terminals: Plated leads Solderable per MIL-STD-202, Method 208
- Mounting Position: Any
- Marking Code: A7

### Maximum Ratings @ $T_A=25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Limits	Unit
Reverse Voltage	$V_R$	85	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
Typical Thermal Resistance, Junction to Ambient Air	$R_{\theta JA}$	556	$^\circ\text{C/W}$
Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	$^\circ\text{C}$

### Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

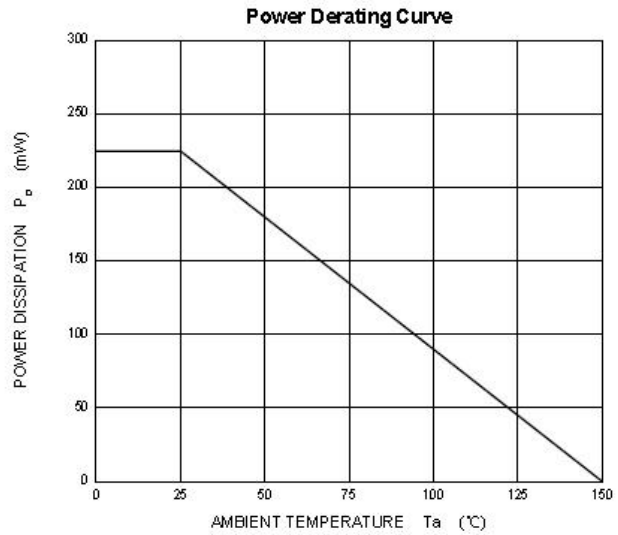
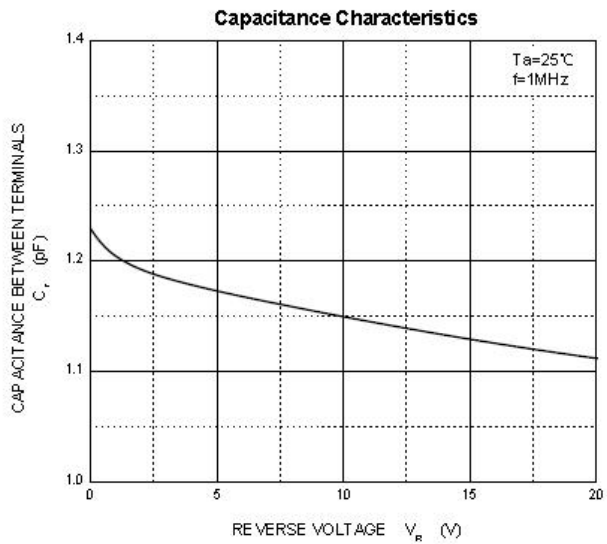
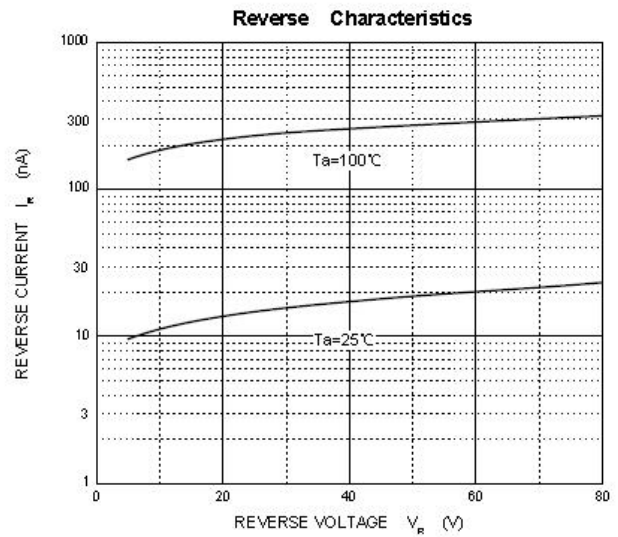
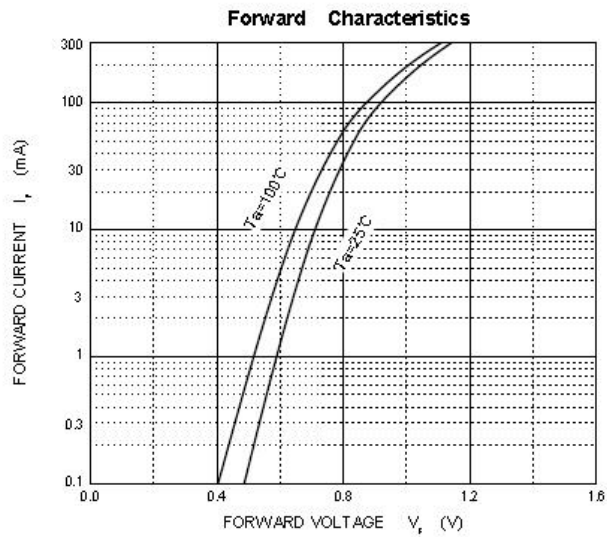
Characteristic	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Reverse Breakdown Voltage*	$V_R$	85	-	-	V	@ $I_F=100\mu\text{A}$
Forward Voltage*	$V_F$	-	0.60 0.70 0.82 1.00	0.715 0.855 1 1.25	V	@ $I_F=1\text{mA}$ @ $I_F=10\text{mA}$ @ $I_F=50\text{mA}$ @ $I_F=150\text{mA}$
Reverse Leakage Current*	$I_R$	-	0.02	2.5	$\mu\text{A}$	@ $V_R=75\text{V}$
Capacitance between terminals	$C_T$	-	1.23	2	pF	$V_R=0\text{V}, f=1.0\text{MHz}$
Reverse Recovery Time	$t_{rr}$	-	-	6.0	ns	$I_F=I_R=10\text{mA}, I_{RR}=0.1 \times I_R, R_L=100\Omega$

\* Pulse width < 300  $\mu\text{s}$ , duty cycle < 2%

Note: 1. Device mounted on fiberglass substrate 40x40x1.5mm

- China - Germany - Korea - Singapore - United States •
- <http://www.smc-diodes.com> - [sales@smc-diodes.com](mailto:sales@smc-diodes.com) •

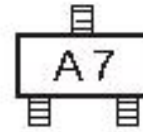
**Ratings and Characteristics Curves**



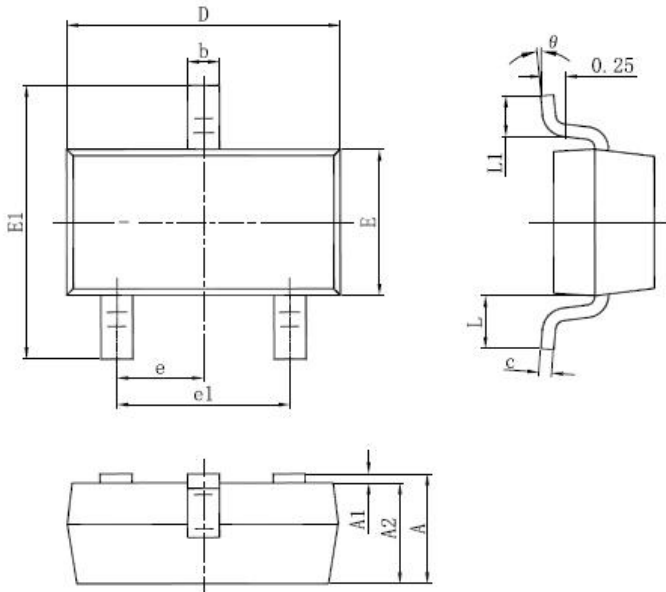
**Ordering Information**

Device	Package	Shipping
BAV99	SOT-23	3000pcs / reel

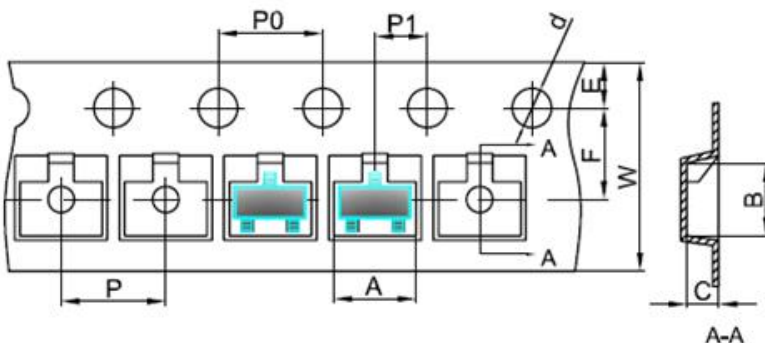
For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

**Marking Diagram**


A7 = Marking Code

**Mechanical Dimensions SOT-23**


SYMBOL	Millimeters		Inches	
	MIN.	MAX.	MIN.	MAX.
A	0.890	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	0.076	0.180	0.003	0.007
D	2.650	3.050	0.104	0.120
E	1.190	1.400	0.047	0.055
E1	2.100	2.640	0.083	0.104
e	0.950 TYP.		0.037 TYP.	
e1	1.780	2.050	0.070	0.081
L	0.550 REF.		0.022 REF.	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

**Carrier Tape Specification SOT-23**


SYMBOL	Millimeters	
	Min.	Max.
A	3.05	3.25
B	2.67	2.87
C	1.12	1.32
d	1.40	1.60
E	1.65	1.85
F	3.40	3.60
P	3.90	4.10
P0	3.90	4.10
P1	1.90	2.10
W	7.90	8.30

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