



## BAV99 SURFACE MOUNT SWITCHING DIODE

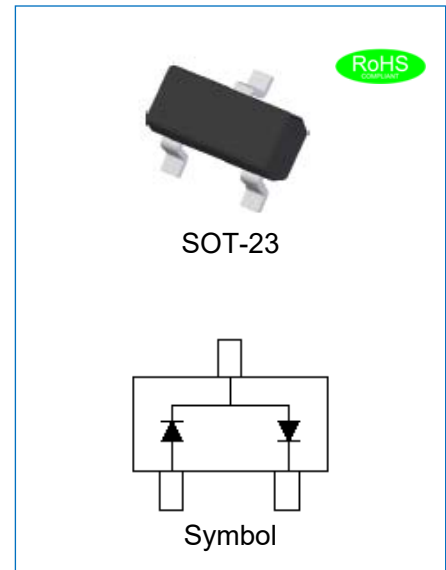
Rev.1.3

### FEATURES

- ✧ Fast Switching Speed
- ✧ Surface Mount Package Ideally Suited for Automatic Insertion
- ✧ For Surface Mounted Applications
- ✧ Halogen free and RoHS compliant
- ✧ For General Purpose Switching Applications
- ✧ High Conductance

### MECHANICAL DATA

- ✧ Case: SOT-23, Plastic
- ✧ Polarity: Cathode Band
- ✧ Quantity Per Reel:3,000pcs
- ✧ Type Code: A7



### ABSOLUTE MAXIMUM RATING CHARACTERISTICS

(Rating at 25°C ambient temperature unless otherwise specified.)

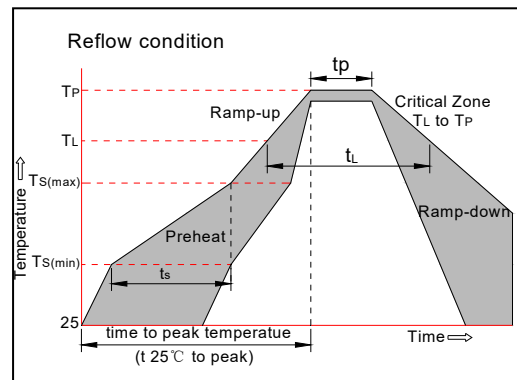
Parameter	Symbol	BAV99	Unit
Continuous Reverse Voltage	$V_R$	75	V
Peak Repetitive Reverse Voltage	$V_{RM}$	100	V
Average Rectified Output Current	$I_o$	215	mA
Non-repetitive Peak Forward Surge Current	$t_P=1s$	1	A
	$t_P=1\mu s$	4	
Power Dissipation at $T_A=25^\circ C$	$P_D$	350	mW
Thermal Resistance (Junction to Ambient)	$R_{\theta JA}$	357	$^\circ C/W$
Operating Junction Temperature Range	$T_j$	-55 to +150	$^\circ C$
Storage Temperature Range	$T_{stg}$	-55 to +150	$^\circ C$

**ELECTRICAL CHARACTERISTICS**(Rating at 25°C ambient temperature unless otherwise specified.)

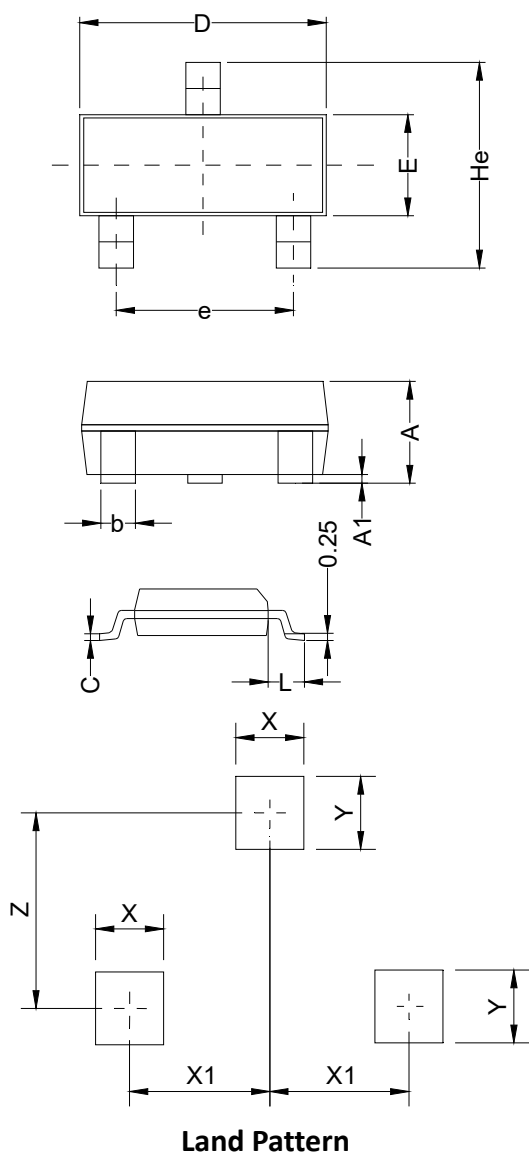
Symbol	Parameter	Conditions	Value			Unit
			Min.	Typ.	Max.	
$V_{(BR)R}$	Breakdown Voltage	$I_R=100\mu A$	100	-	-	V
$V_F$	Forward Voltage	$I_F=1mA$	-	-	0.715	V
		$I_F=10mA$	-	-	0.855	V
		$I_F=50mA$	-	-	1.00	V
		$I_F=150mA$	-	-	1.25	V
$I_R$	Reverse Current	$V_R=25V, T_j=150^\circ C$	-	-	30	$\mu A$
		$V_R=75V, T_j=25^\circ C$	-	-	2.5	$\mu A$
		$V_R=75V, T_j=150^\circ C$	-	-	50	$\mu A$
$C_T$	Capacitance	$V_R=0V, f=1MHz$	-	2.0	-	pF
$T_{rr}$	Reverse Recovery Time	$I_F=10mA, V_R=6V$ $I_{RR}=1mA, R_L=100\Omega$	-	-	4	ns

**SOLDERING PARAMETERS**

Reflow Condition		Pb-Free assembly (see figure at right)
Pre Heat	-Temperature Min ( $T_{s(min)}$ )	+150°C
	-Temperature Max( $T_{s(max)}$ )	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquidus Temp ( $T_L$ ) to peak)		3°C/sec. Max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature( $T_L$ )(Liquidus)	+217°C
	-Temperature( $t_L$ )	60-150 secs.
Peak Temp ( $T_p$ )		+260(+0/-5)°C
Time within 5°C of actual Peak Temp ( $t_p$ )		20-40secs.
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp ( $T_P$ )		8 min. Max
Do not exceed		+260°C

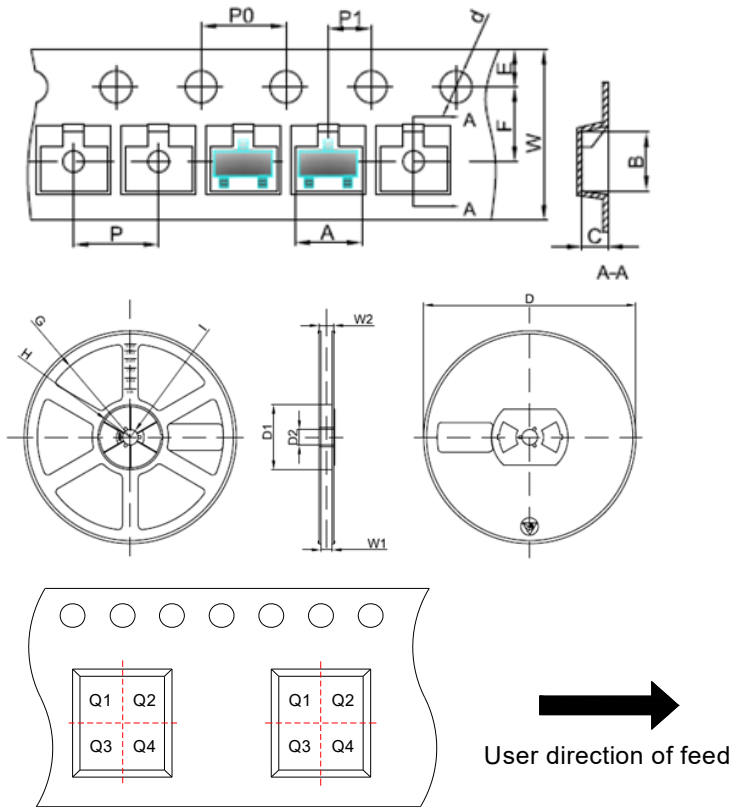


**PACKAGE MECHANICAL DATA**



Symbol	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	0.90	1.063	1.15	0.035	0.042	0.045
A1	0.00	0.075	0.14	0.000	0.003	0.006
b	0.30	0.40	0.50	0.012	0.016	0.020
C	0.07	0.10	0.15	0.003	0.004	0.006
D	2.80	2.90	3.00	0.110	0.114	0.118
e	1.80	1.90	2.00	0.071	0.075	0.079
E	1.20	1.30	1.40	0.047	0.051	0.055
L	0.55REF			0.022REF		
He	2.25	2.40	2.55	0.089	0.094	0.100
X	0.80			0.031		
X1	0.95			0.037		
Y	0.80			0.031		
Z	2.02			0.080		

TAPE AND REEL SPECIFICATION-SOT-23



Pin 1 quadrant: Q3

Packaging Description:

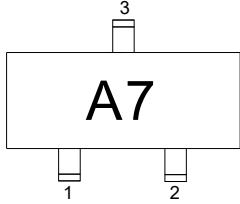
SOT-23 parts are shipped in tape. The carrier tape is made from a dissipative(carbon filled) polycarbonate resin. The cover tape is a multilayer film(heat activated adhesive in nature)primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000units per 7" or 17.8cm diameter reel. The reels are clear in color and made of polystyrene plastic(anti-static coated).

Symbol	Millimeters	Inches
	Typ.	Typ.
A	3.15	0.124
B	2.77	0.109
C	1.22	0.048
d	Φ1.50	Φ0.059
E	1.75	0.069
F	3.50	0.138
P0	4.00	0.157
P	4.00	0.157
P1	2.00	0.079
W	8.00	0.315
D	Φ178	Φ7.008
D1	54.40	2.142
D2	13.00	0.512
G	R78.00	R3.071
H	R25.60	R1.008
I	R6.50	R0.256
W1	9.50	0.374
W2	12.30	0.484

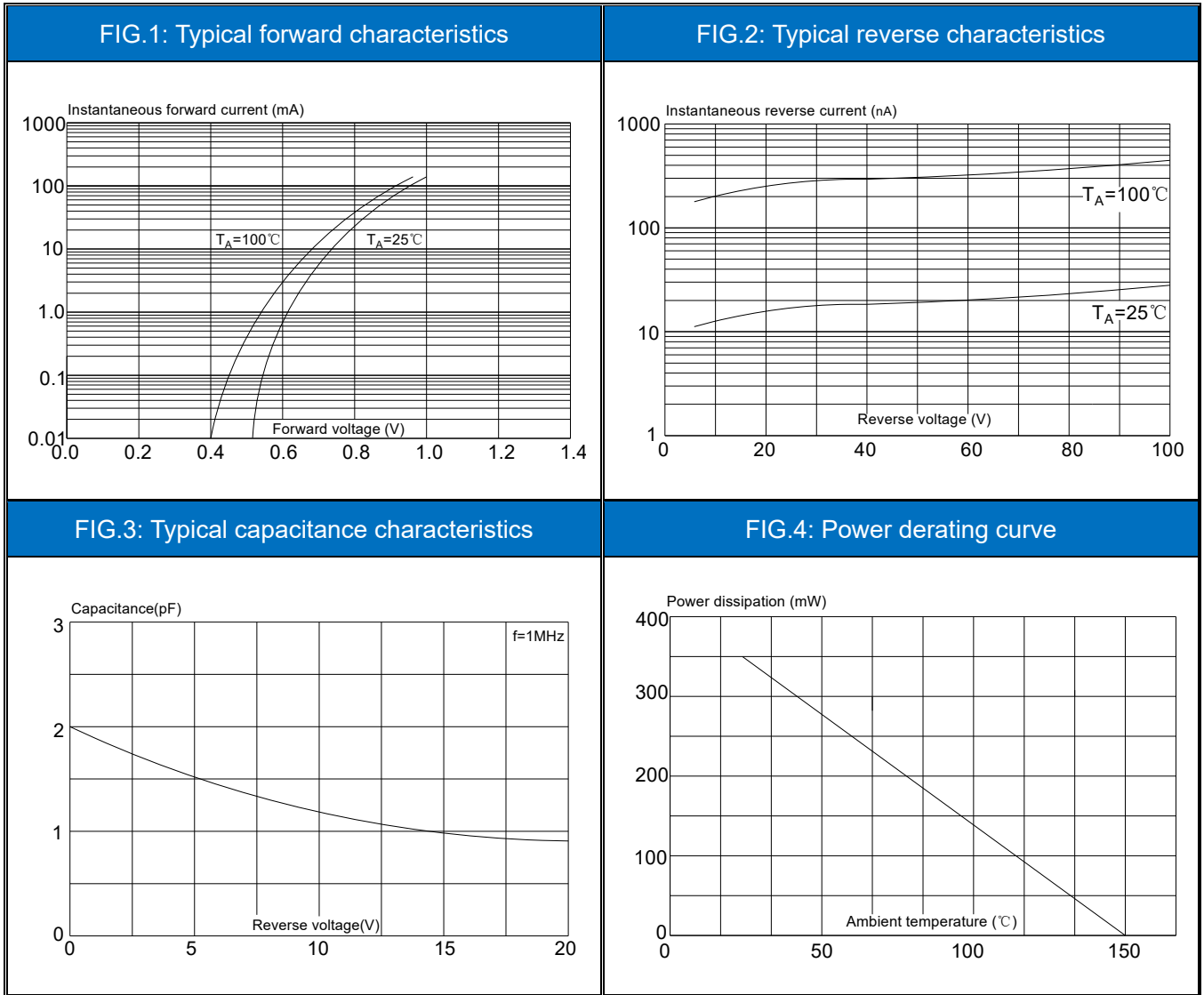
ORDERING INFORMATION

OUTLINE	PACKAGE TYPE	QUANTITY REEL	DESCRIPTION
TAPING	SOT-23	3,000	7 inch reel pack

MARKING CODE

Part Number	Marking Code
BAV99	

CHARACTERISTICS CURVE




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