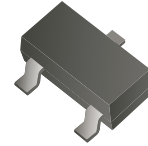


## BAW56-HF, BAV70-HF/99-HF

RoHS Device  
Halogen Free



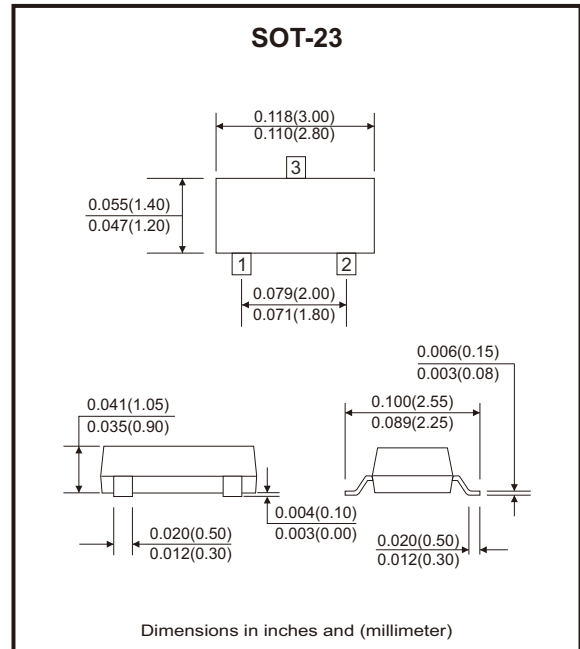
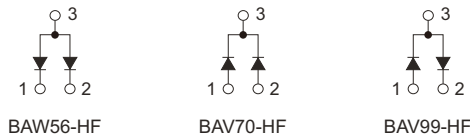
### Features

- Fast switching device ( $T_{rr} < 6.0\text{nS}$ ).
- Power dissipation of 225mW.
- High stability and high reliability.
- Low reverse leakage.

### Mechanical data

- Case: SOT-23, molded plastic.
- Epoxy UL: 94V-0.
- Mounting position: Any.

### Circuit Diagram



### Maximum Rating (at $T_a=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Reverse voltage	$V_R$	70	V
Power dissipation	$P_D$	225	mW
Average rectified current	$I_o$	200	mA
Non-repetitive peak forward current	$I_{FM}$	400	mA
Peak forward surge current @ $t_p=1\text{ms}$ , $T_A=25^\circ\text{C}$	$I_{FSM}$	2	A
Typical thermal resistance	$R_{\theta JA}$	500	$^\circ\text{C/W}$
Operating junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-65 to +150	$^\circ\text{C}$

Note: Valid provided that electrodes are kept at ambient temperature.

## Electrical Characteristics (at Ta=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Reverse voltage	$I_B = 100\mu A$	$V_{RB}$	70			V
Reverse leakage current	$V_R = 70V$	$I_R$			2.5	$\mu A$
Forward voltage	$I_F = 1mA$ $I_F = 10mA$ $I_F = 50mA$ $I_F = 150mA$	$V_F$			0.715 0.855 1.00 1.25	V
Capacitance	$V_R = 0V, f = 1MHz$	$C_T$			1.5	pF
Reverse recovery time	$I_F = I_R = 10mA, R_L = 100\Omega$ $t_{rr} = 0.1 \times I_R$	$T_{RR}$			6	nS

## Rating and Characteristic Curves (BAW56-HF, BAV70-HF/99-HF)

Fig.1 - Forward Characteristics

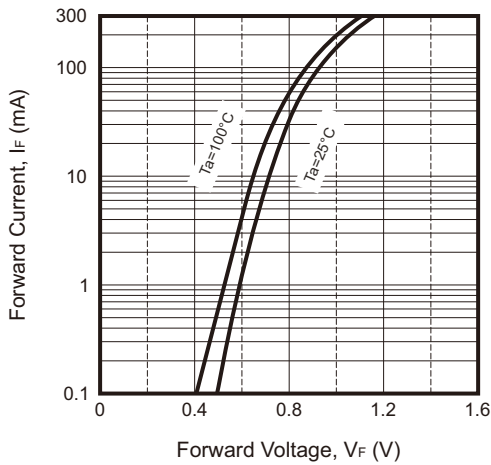


Fig.2 - Reverse Characteristics

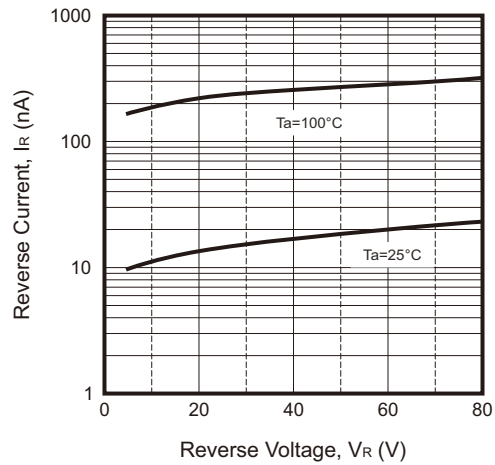


Fig.3 - Capacitance Characteristics

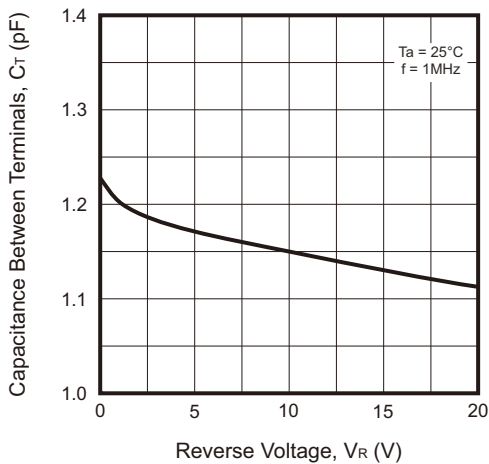
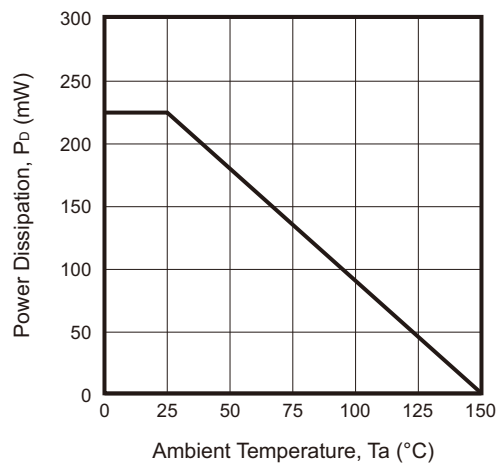
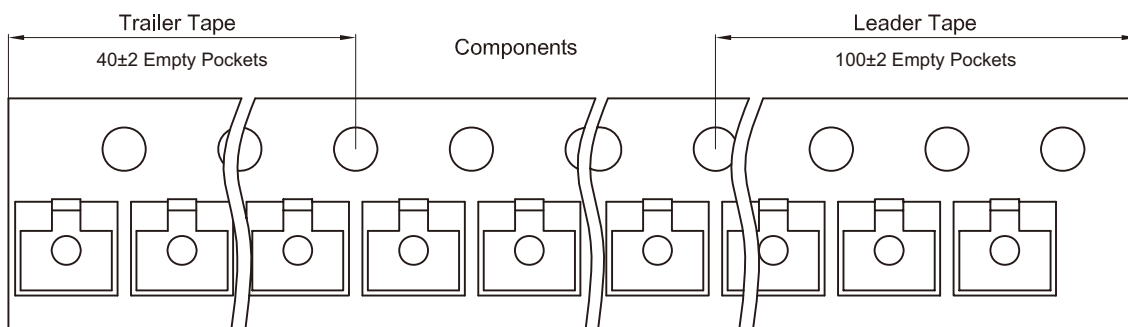
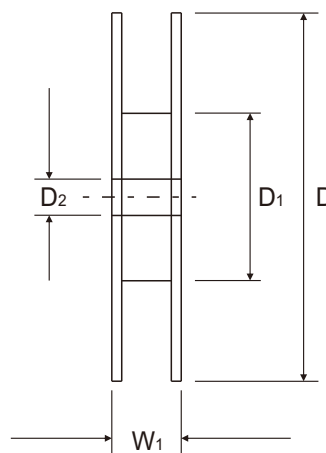
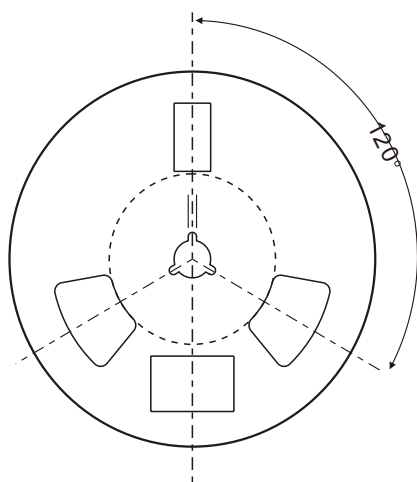
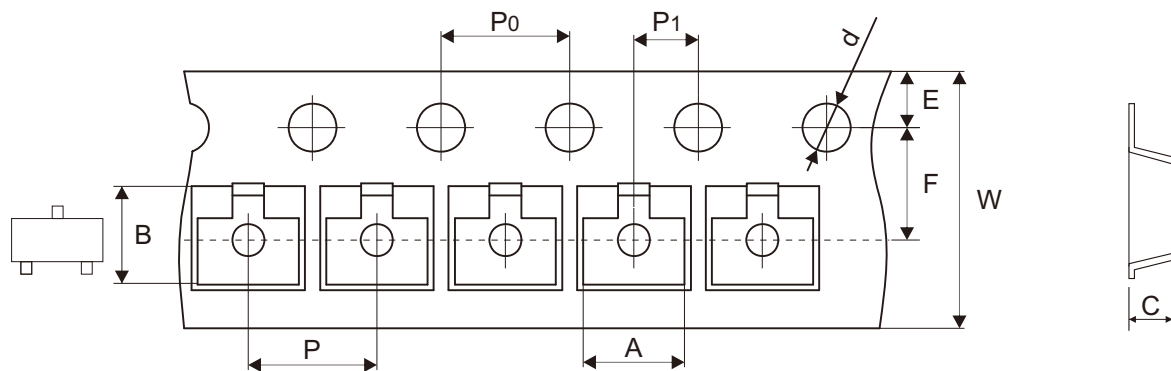


Fig.4 - Power Derating Curve



## Reel Taping Specification

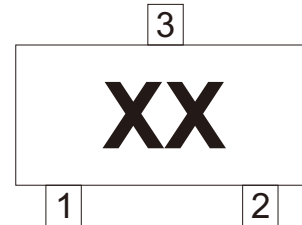


SOT-23	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	3.15 ± 0.10	2.77 ± 0.10	1.22 ± 0.10	1.50 ± 0.10	178.00 ± 2.00	54.40 ± 1.00	13.00 ± 1.00
	(inch)	0.124 ± 0.004	0.109 ± 0.004	0.048 ± 0.004	0.059 ± 0.004	7.008 ± 0.079	2.142 ± 0.039	0.512 ± 0.039

SOT-23	SYMBOL	E	F	P	P0	P1	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	8.00 ± 0.10	12.30 ± 1.00
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.315 ± 0.004	0.472 ± 0.039

## Marking Code

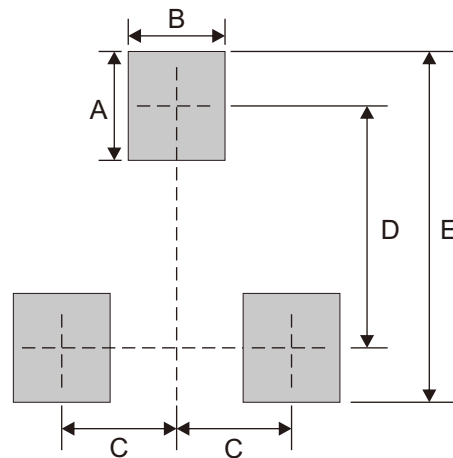
Part Number	Marking Code
BAW56-HF	A1
BAV70-HF	A4
BAV99-HF	A7



xx = Product type marking code

## Suggested PAD Layout

SIZE	SOT-23	
	(mm)	(inch)
A	0.90	0.035
B	0.80	0.031
C	0.95	0.037
D	2.00	0.079
E	2.90	0.114



Note: 1. The pad layout is for reference purposes only.

## Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SOT-23	3,000	7

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