

FEATURES

Fast Switching Speed
For General Purpose Switching Applications.
High Conductance

VOLTAGE RANGE

250 Volts

CURRENT

0.4 Ampere

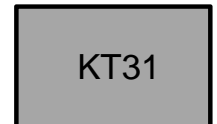
Marking



BAV23A

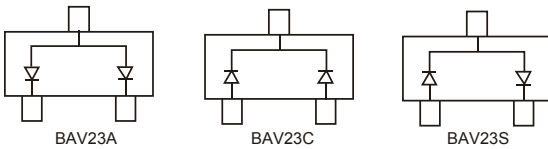


BAV23C

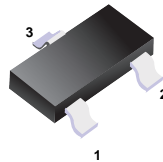


BAV23S

Equivalent Circuit



SOT-23



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

Parameter	Symbol	Rating	Unit	
Reverse Voltage	V_{RRM}	250	V	
Working Peak Reverse Voltage	V_{RWM}	200		
DC Blocking Voltage	V_R	200		
RMS Reverse Voltage	$V_{R(RMS)}$	141		
Forward Continuous Current (Notes 1)	I_{FM}	400	mA	
Non-Repetitive Peak Forward Surge Current	I_{FSM}	$t=1\mu\text{s}$	9	A
		$t=100\mu\text{s}$	3	
		$t=10\text{ms}$	1.7	
Repetitive Peak Forward Surge Current	I_{FRM}	625	mA	
Power Dissipation	P_d	350	mW	
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	357	$^{\circ}\text{C}/\text{W}$	
Junction Temperature	T_J	150	$^{\circ}\text{C}$	
Storage Temperature range	T_{stg}	-65 to 150		

1. Double Diode Loaded in Parallel. For Single Diode or Double Diode Loaded in Series, the continuous forward current should be reduced by half.

Electrical Characteristics

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse breakdown voltage	V_R	$I_R = 100 \mu A$	250			V
Forward voltage	V_F	$I_F = 100 \text{ mA}$			1	
		$I_F = 200 \text{ mA}$			1.25	
Reverse voltage leakage current	I_R	$V_R = 200 \text{ V}, T_J = 25^\circ C$			100	nA
		$V_R = 200 \text{ V}, T_J = 150^\circ C$			100	μA
Junction capacitance	C_j	$V_R = 0 \text{ V}, f = 1 \text{ MHz}$			5	pF
Reverse recovery time	t_{rr}	$I_F = I_R = 30 \text{ mA}, I_{rr} = 0.1 \times I_R, R_L = 100 \Omega$			50	ns

RATING AND CHARACTERISTIC CURVES

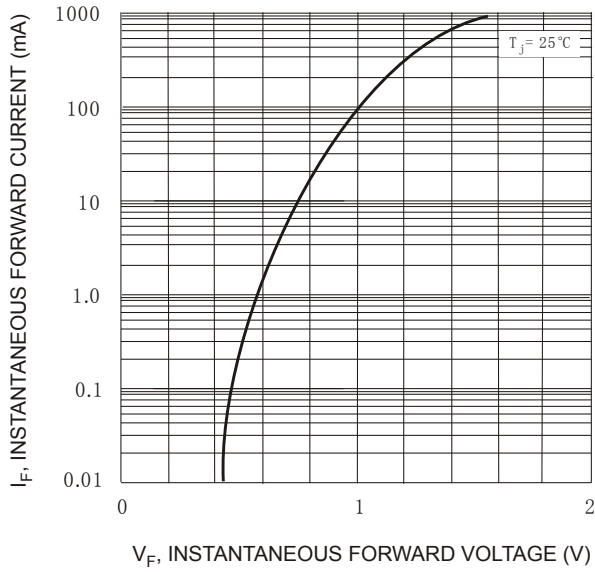


Fig. 1 Forward Characteristics

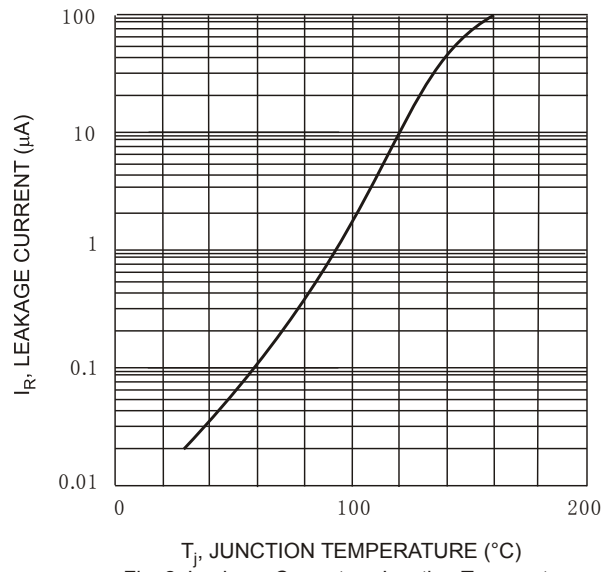


Fig. 2 Leakage Current vs Junction Temperature

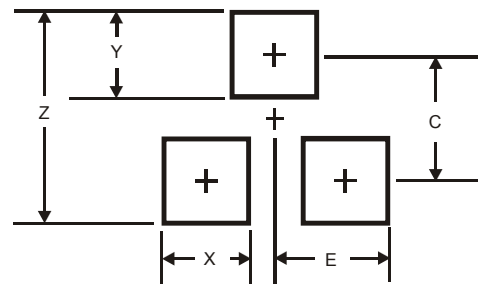
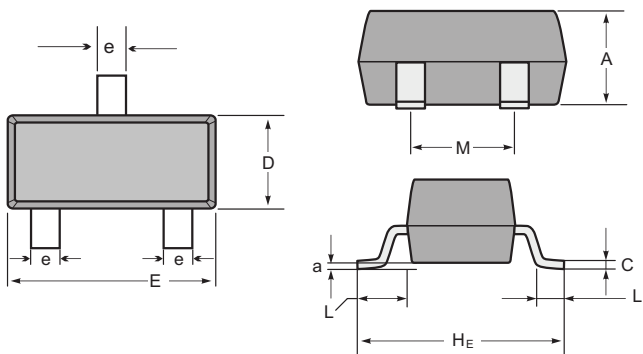
Soldering parameters

Reflow Condition		Pb-Free assembly (see as below)
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 (Liquid us 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) (Liquid us)	+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)		30 secs. Max
Ramp-down Rate		6 °C/sec. Max
Time 25 °C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260 °C



Package Dimensions & Suggested Pad Layout

SOT23



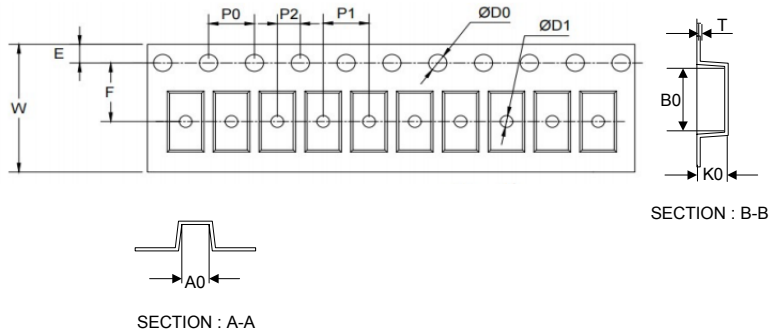
SOT-23 mechanical data

UNIT	A	C	D	E	He	e	M	L	L1	a	
mm	max	1.1	0.15	1.4	3.0	2.6	0.5	1.95	0.55 (ref)	0.36 (ref)	0.0
	min	0.9	0.08	1.2	2.8	2.2	0.3	1.7			0.15
mil	max	43	6	55	118	102	20	77	22 (ref)	14 (ref)	0.0
	min	35	3	47	110	87	12	67			6

Dimensions	SOT23
Z	2.9
X	0.8
Y	0.9
C	2.0
E	1.35

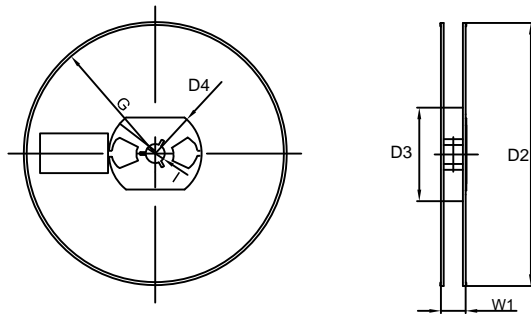
Tape & reel specification

Tape



Symbol	Dimension (mm)
P0	4.00±0.10
P1	4.00±0.10
P2	2.00±0.10
D0	1.55±0.10
D1	1.05±0.10
E	1.55±0.10
F	3.60±0.10
W	8.00±0.10
A0	3.80±0.20
B0	3.25±0.20
K0	1.45±0.10
T	0.25±0.05
D2	178.0±3.0
D3	55Min.
D4	R24.0±3.0
G	R82.0±3.0
I	13.0±2.0
W1	11.0±3.0

7" Reel



Quantity: 3000PCS