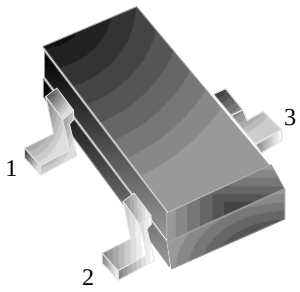
BAV199

High-speed switching diode

Features

- Low capacitance
- Low leakage current
- Small SMD plastic package
- High switching speed

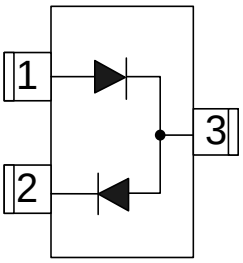


SOT-23

Applications

- High-speed switching
- Low-leakage Current Applications

Schematic & PIN Configuration



SOT-23 (Top View)

Absolute Maximum Rating

Parameter		Symbol	Value	Unit
Repetitive Peak Reverse Voltage		V_{RRM}	85	V
Forward Current		I_F	215	mA
Non-repetitive Peak Forward Surge Current at T_J(init)=25℃	tp = 8.3 ms	I_{FSM}	1.0	A
Repetitive Peak Forward Current		I_{FRM}	500	mA
Power Dissipation		P_D	250	mW
Thermal Resistance from Junction to Ambient		$R_{\theta JA}$	500	°C/W
Operating and Storage Temperature Range		T_J, T_{STG}	-55 to +150	°C

Electrical Characteristics(T_{amb}=25°C unless otherwise noted)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	I_F = 1mA	-	-	0.9	V
		I_F = 10mA	-	-	1.0	
		I_F = 50mA	-	-	1.1	
		I_F = 150mA	-	-	1.25	
Reverse Current	I_R	V_R = 75V	-	-	5.0	nA
Diode Capacitance	C_D	V_R = 0V,f =1MHz	-	2.0	-	pF
Reverse Recovery Time	t_{rr}	I_F=I_R=10mA,I_{rr}=0.1I_R, R_L=100Ω	-	-	3.0	μs

Typical Characteristics

Figure 1. Forward Characteristics

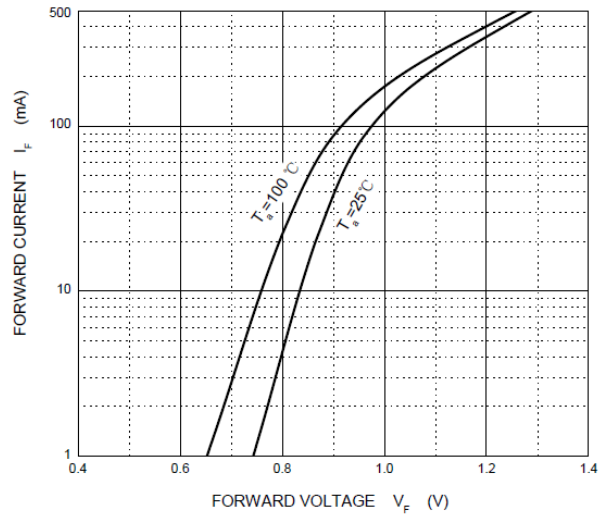


Figure 2. Reverse Characteristics

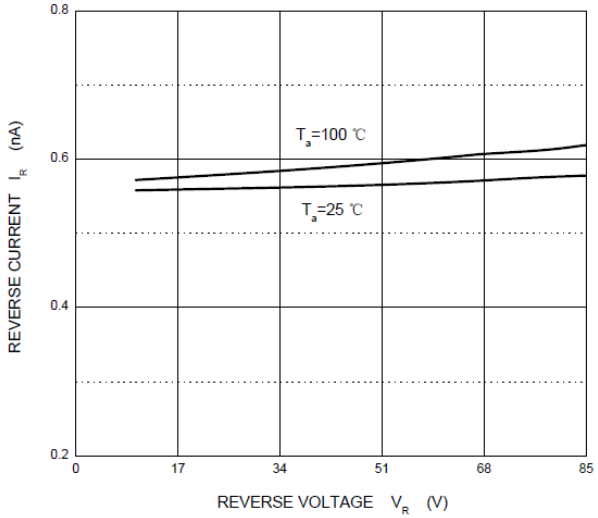


Figure 3. Capacitance Characteristics

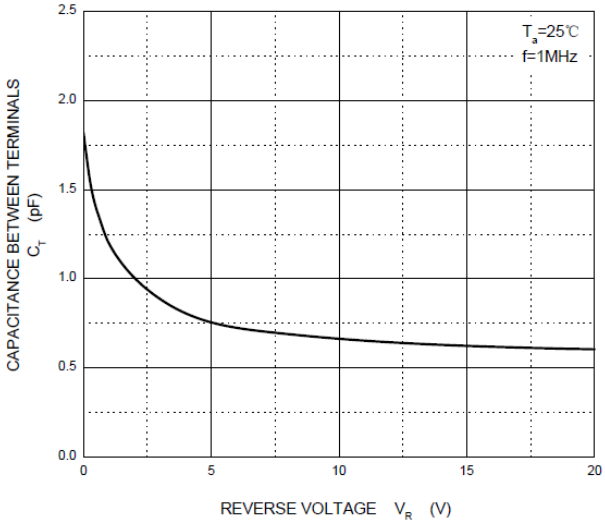
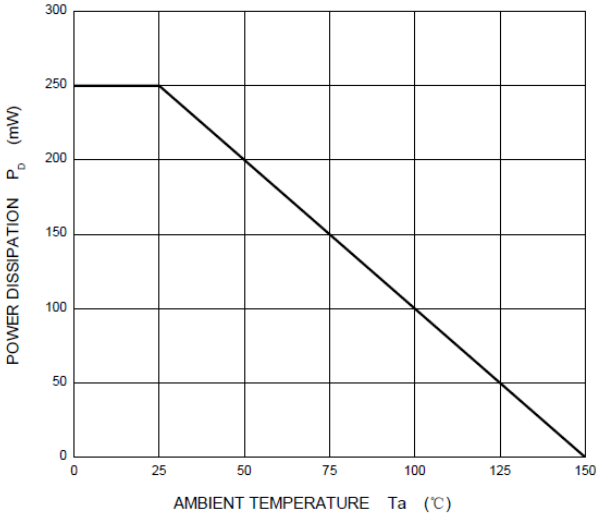
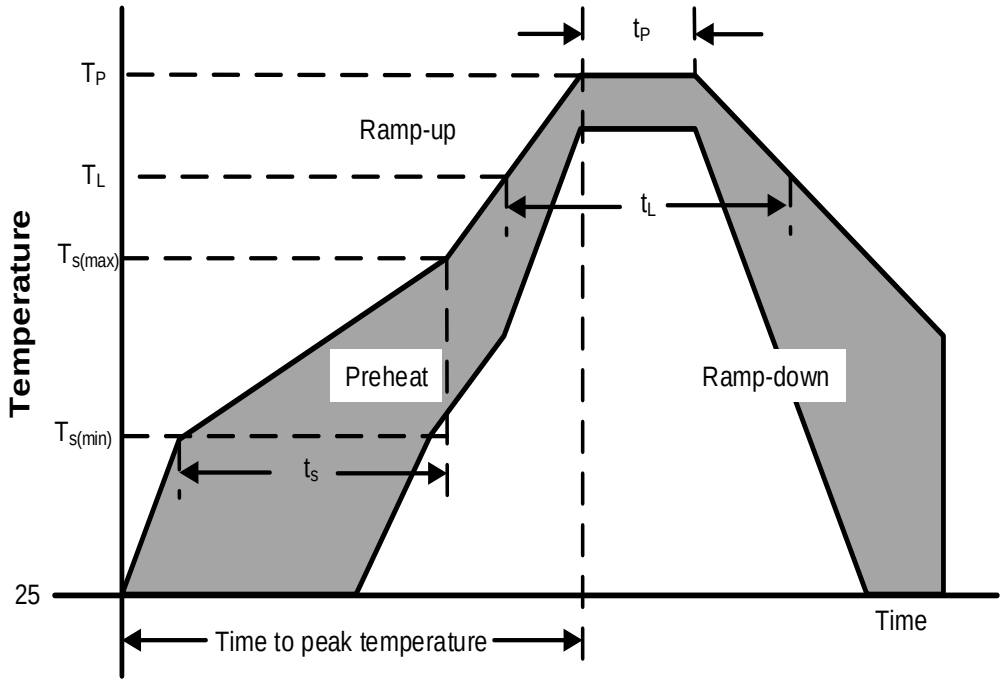


Figure 4. Power Derating Curve



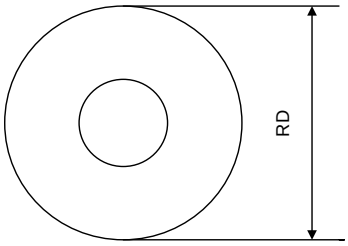
Soldering Parameters

Reflow Condition		Pb – Free assembly
Pre Heat	Temperature Min ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (ts)	60 – 190 secs
Average ramp up rate (Liquidus Temp) (T_L) to peak		5°C/second max
$T_{S(max)}$ to T_L——Ramp-up Rate		5°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Temperature (t_L)	60 – 150 seconds
Peak Temperature (T_P)		260+0/-5 °C
Time within actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		5°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes Max.
Do not exceed		280°C

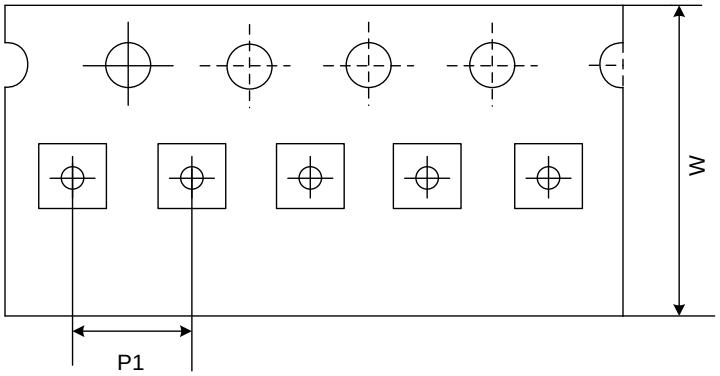


Tape And Reel Information

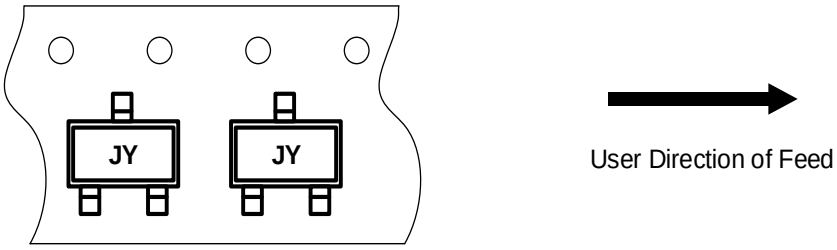
Reel Dimensions



Tape Dimensions



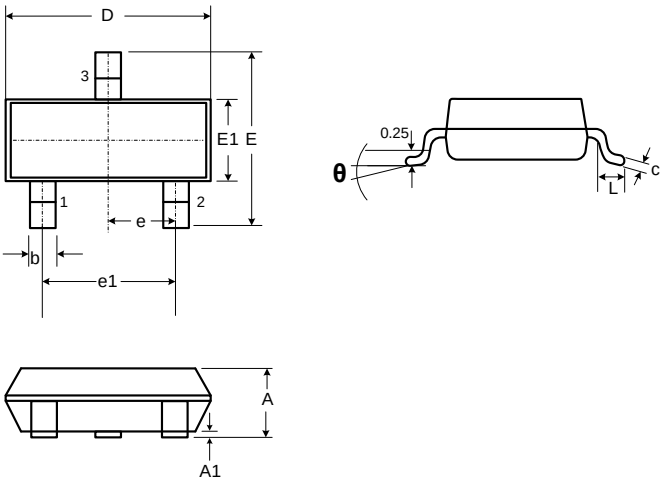
Quadrant Assignments For PIN1 Orientation In Tape

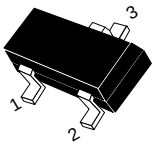


RD	Reel Dimensions	7 inch
W	Overall width of the carrier tape	8 mm
P1	Pitch between successive cavity centers	4mm

Outline Drawing – SOT-23

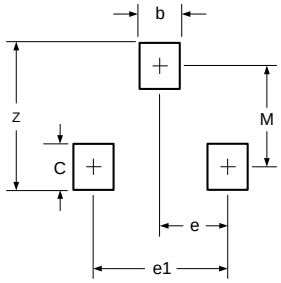
PACKAGE OUTLINE





SOT-23

DIMENSIONS				
SYMBOL	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.90	1.15	0.035	0.045
A1	0.00	0.10	0.000	0.004
b	0.30	0.50	0.012	0.020
c	0.08	0.15	0.003	0.006
D	2.80	3.00	0.110	0.118
E	2.25	2.55	0.089	0.100
E1	1.20	1.40	0.047	0.055
e	0.95 BSC		0.037 BSC	
e1	1.80	2.00	0.071	0.079
L	0.20	0.50	0.012	0.020
θ	0	8°	0	8°



DIMENSIONS		
DIM	INCHES	MILLIMETERS
M	0.0795	2.02
C	0.0315	0.80
Z	0.111	2.82
e	0.037 BSC	0.95 BSC
e1	0.075 BSC	1.9 BSC
b	0.0315	0.80

Notes:
Controlling Dimension: Millimeter.

Marking Codes

Part Number	BAV199
Marking Code	JY

Package Information

Qty：3k/Reel

CONTACT INFORMATION

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For additional information, please contact your local Sales Representative.

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Specifications are subject to change without notice.
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.
Users should verify actual device performance in their specific applications.