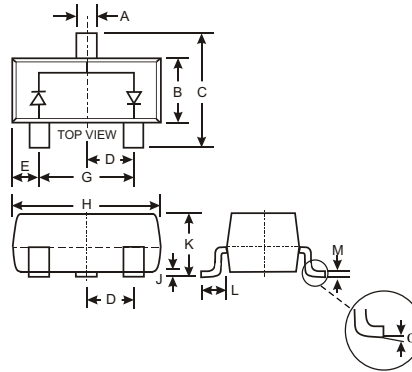


Features

- Surface Mount Package Ideally Suited for Automatic Insertion
- Very Low Leakage Current
- Available in Lead Free/RoHS Compliant Version (Note 3)

Mechanical Data

- Case: SOT-23
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish – Matte Tin Solderable per MIL-STD-202, Method 208
- Also Available in Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe). Please see Ordering Information, Note 5, on Page 2
- Polarity: See Diagram
- Marking: K52 & Date Code (See Page 2)



SOT-23		
Dim	Min	Max
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
E	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.085	0.180
α	0°	8°
All Dimensions in mm		

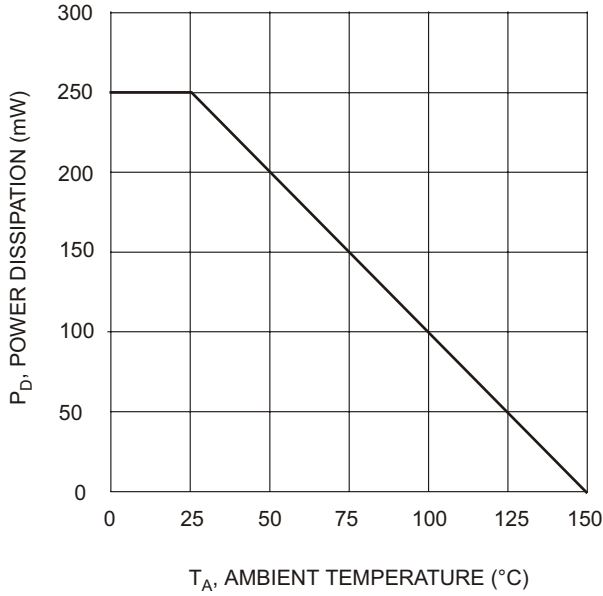
Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	BAV199	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	85	V
RMS Reverse Voltage	$V_{R(RMS)}$	60	V
Forward Continuous Current (Note 2)	Single diode Double diode	160 140	mA
Repetitive Peak Forward Current (Note 2)	I_{FRM}	500	mA
Non-Repetitive Peak Forward Surge Current	@ $t = 1.0\mu\text{s}$ @ $t = 1.0\text{ms}$ @ $t = 1.0\text{s}$	4.0 1.0 0.5	A
Power Dissipation (Note 2)	P_d	250	mW
Thermal Resistance Junction to Ambient Air (Note 2)	$R_{\theta JA}$	500	$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150	$^\circ\text{C}$

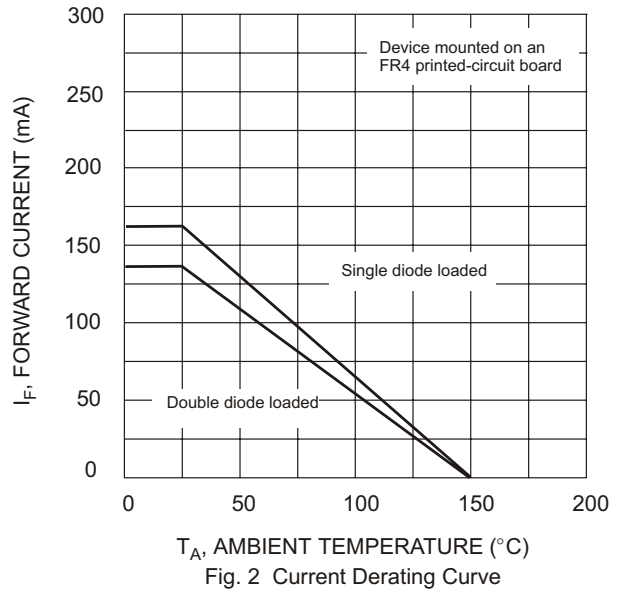
Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 1)	$V_{(BR)R}$	85	—	—	V	$I_R = 100\mu\text{A}$
Forward Voltage (Note 1)	V_F	—	—	0.90 1.0 1.1 1.25	V	$I_F = 1.0\text{mA}$ $I_F = 10\text{mA}$ $I_F = 50\text{mA}$ $I_F = 150\text{mA}$
Leakage Current (Note 1)	I_R	—	—	5.0 80	nA nA	$V_R = 75\text{V}$ $V_R = 75\text{V}, T_J = 150^\circ\text{C}$
Total Capacitance	C_T	—	2	—	pF	$V_R = 0, f = 1.0\text{MHz}$
Reverse Recovery Time	t_{rr}	—	—	3.0	μs	$I_F = I_R = 10\text{mA}$, $t_{rr} = 0.1 \times I_R, R_L = 100\Omega$

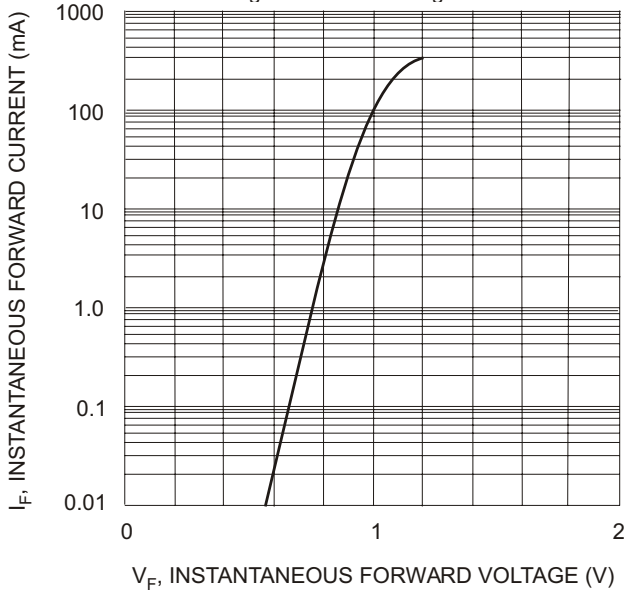
- Notes:
1. Short duration test pulse to minimize self-heating effect.
 2. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
 3. No purposefully added lead.



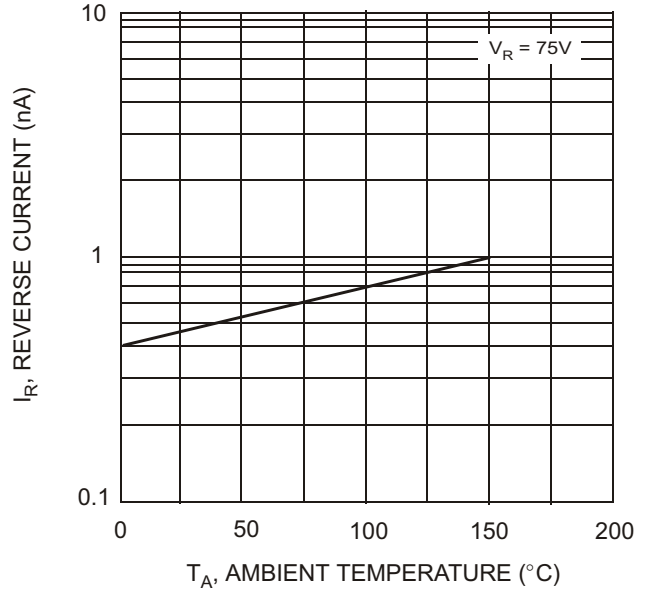
T_A, AMBIENT TEMPERATURE (°C)
Fig. 1 Power Derating Curve



T_A, AMBIENT TEMPERATURE (°C)
Fig. 2 Current Derating Curve



V_F, INSTANTANEOUS FORWARD VOLTAGE (V)
Fig. 3 Typical Forward Characteristics



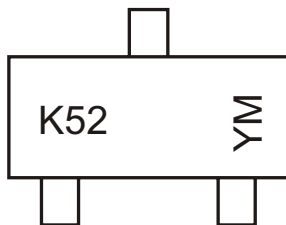
T_A, AMBIENT TEMPERATURE (°C)
Fig. 4 Typical Reverse Characteristics

Ordering Information (Note 4)

Device	Packaging	Shipping
BAV199-7	SOT-23	3000/Tape & Reel

- Notes: 4. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.
5. For Lead Free/RoHS Compliant Version part number, please add "-F" suffix to the part number above. Example: BAV199-7-F.

Marking Information



K52 = Product Type Marking Code
YM = Date Code Marking
Y = Year ex: N = 2002
M = Month ex: 9 = September

Date Code Key

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009
Code	M	N	P	R	S	T	U	V	W

Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D