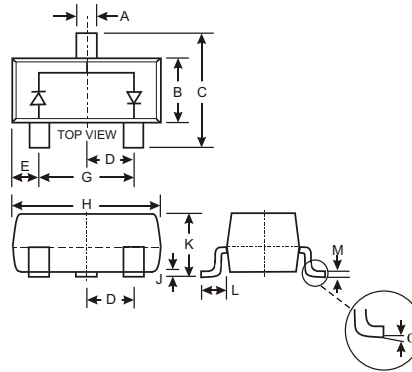


**Features**

Surface Mount Package Ideally Suited for Automatic Insertion  
Very Low Leakage Current

**Mechanical Data**

Case: SOT-23, Molded Plastic  
Case material - UL Flammability Rating 94V-0  
Moisture sensitivity: Level 1 per J-STD-020A  
Terminals: Solderable per MIL-STD-202, Method 208  
Polarity: See Diagram  
Marking: K52 & Date Code (See Page 2)  
Weight: 0.008 grams (approx.)



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	0.85	0.80
	0	8
All Dimensions in mm		

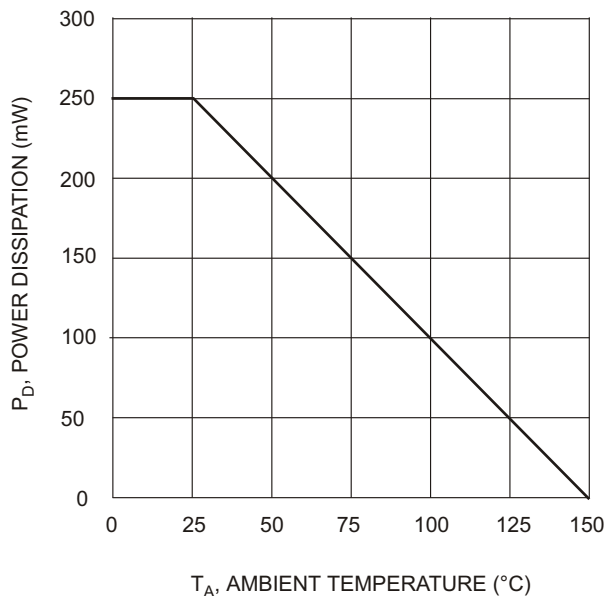
**Maximum Ratings** @ T<sub>A</sub> = 25 C unless otherwise specified

Characteristic	Symbol	BAV199	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	85	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	60	V
Forward Continuous Current (Note 2)	I <sub>FM</sub>	160 140	mA
Repetitive Peak Forward Current (Note 2)	I <sub>FRM</sub>	500	mA
Non-Repetitive Peak Forward Surge Current	I <sub>FSM</sub>	4.0 1.0 0.5	A
		@ t = 1.0 s @ t = 1.0ms @ t = 1.0s	
Power Dissipation (Note 2)	P <sub>d</sub>	250	mW
Thermal Resistance Junction to Ambient Air (Note 2)	R <sub>JA</sub>	500	C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150	C

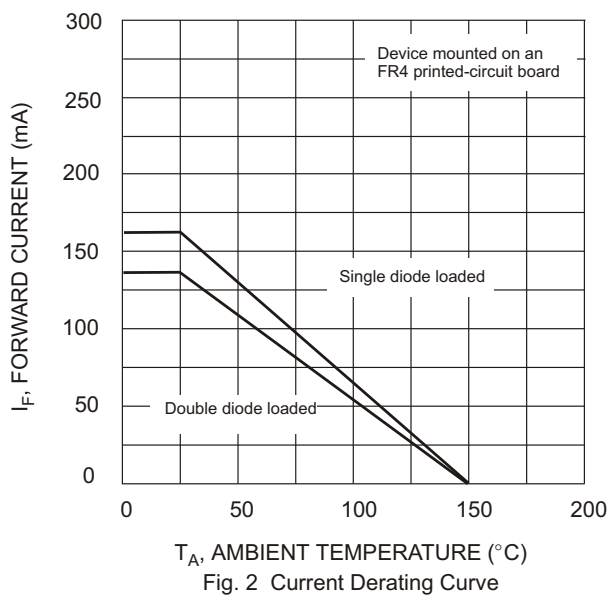
**Electrical Characteristics** @ T<sub>A</sub> = 25 C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 1)	V <sub>(BR)R</sub>	85			V	I <sub>R</sub> = 100 A
Forward Voltage (Note 1)	V <sub>F</sub>			0.90 1.0 1.1 1.25	V	I <sub>F</sub> = 1.0mA I <sub>F</sub> = 10mA I <sub>F</sub> = 50mA I <sub>F</sub> = 150mA
Leakage Current (Note 1)	I <sub>R</sub>			5.0 80	nA nA	V <sub>R</sub> = 75V V <sub>R</sub> = 75V, T <sub>j</sub> = 150 C
Total Capacitance	C <sub>T</sub>		2		pF	V <sub>R</sub> = 0, f = 1.0MHz
Reverse Recovery Time	t <sub>rr</sub>			3.0	s	I <sub>F</sub> = I <sub>R</sub> = 10mA, I <sub>rr</sub> = 0.1 x I <sub>R</sub> , R <sub>L</sub> = 100

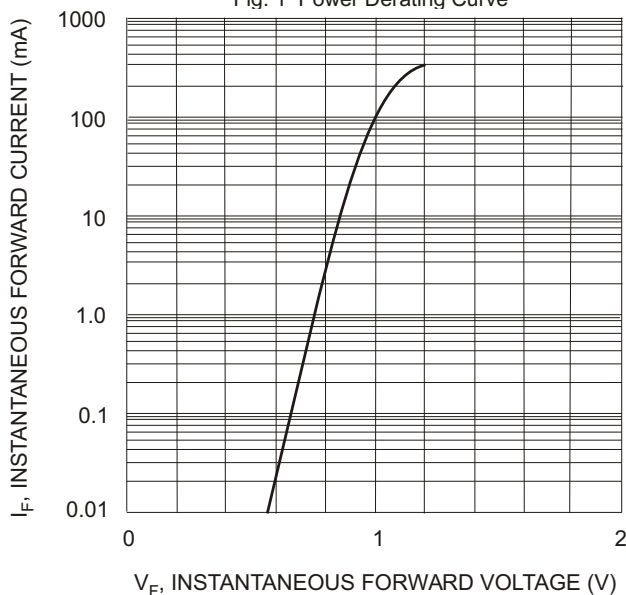
Notes: 1. Short duration test pulse to minimize self-heating effect.  
2. Part mounted on FR-4 PC board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.



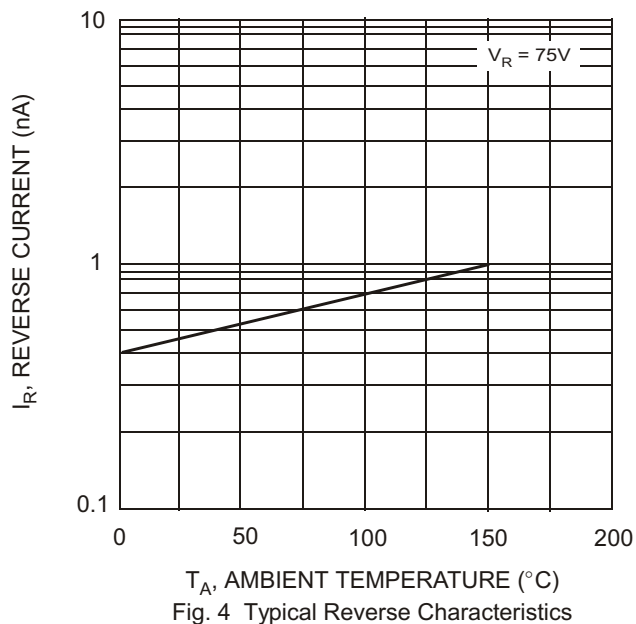
T<sub>A</sub>, AMBIENT TEMPERATURE (°C)  
Fig. 1 Power Derating Curve



T<sub>A</sub>, AMBIENT TEMPERATURE (°C)  
Fig. 2 Current Derating Curve



V<sub>F</sub>, INSTANTANEOUS FORWARD VOLTAGE (V)  
Fig. 3 Typical Forward Characteristics



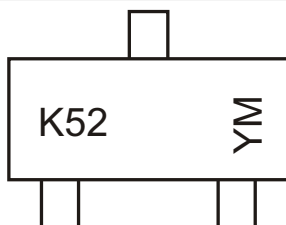
T<sub>A</sub>, AMBIENT TEMPERATURE (°C)  
Fig. 4 Typical Reverse Characteristics

**Ordering Information** (Note 3)

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

Notes: 3. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

**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
Code	M	N	P	R	S

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