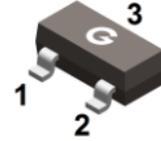
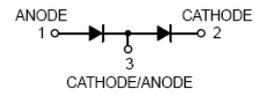


### Features

- Medium speed current applications
- Very low leakage current
- Surface mount package ideally suited for automatic insertion
- RoHS compliant with Halogen-free

HF



SOT-23

### Mechanical Data

- Case: SOT-23
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208

### Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
BAV199	SOT-23	3000 pcs / Tape & Reel	JY

### Maximum Ratings (@ T<sub>A</sub> = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	85	V
Working Peak Reverse Voltage	V <sub>RWM</sub>	85	V
DC Blocking Voltage	V <sub>R</sub>	85	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	60	V
Forward Continuous Current (single diode)	I <sub>F</sub>	160	mA
Forward Continuous Current (double diode)		140	mA
Repetitive Peak Forward Current	I <sub>FRM</sub>	500	mA
Peak Forward Surge Current, t <sub>p</sub> = 1μs	I <sub>FSM</sub>	4	A
Peak Forward Surge Current, t <sub>p</sub> = 1ms	I <sub>FSM</sub>	1	A
Peak Forward Surge Current, t <sub>p</sub> = 1s	I <sub>FSM</sub>	0.5	A
Power Dissipation	P <sub>D</sub>	250	mW
Operating Junction Temperature Range	T <sub>J</sub>	-65 ~ +150	°C
Storage Temperature Range	T <sub>STG</sub>	-65 ~ +150	°C

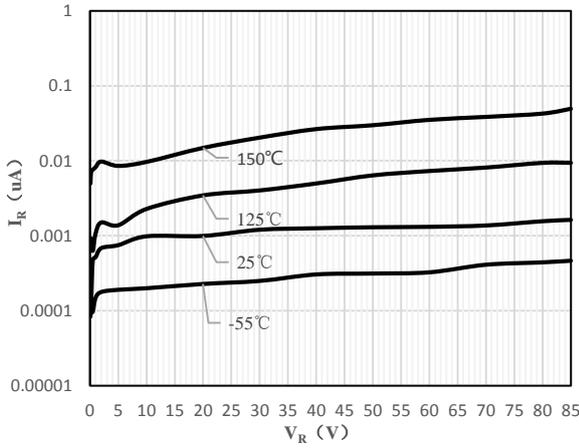
## Thermal Characteristics

Parameter	Symbol	Value	Unit
Thermal Resistance Junction-to-Air <sup>*1</sup>	$R_{\theta JA}$	310	$^{\circ}C/W$
Thermal Resistance Junction-to-Case <sup>*1</sup>	$R_{\theta JC}$	210	$^{\circ}C/W$
Thermal Resistance Junction-to-Lead <sup>*1</sup>	$R_{\theta JL}$	230	$^{\circ}C/W$

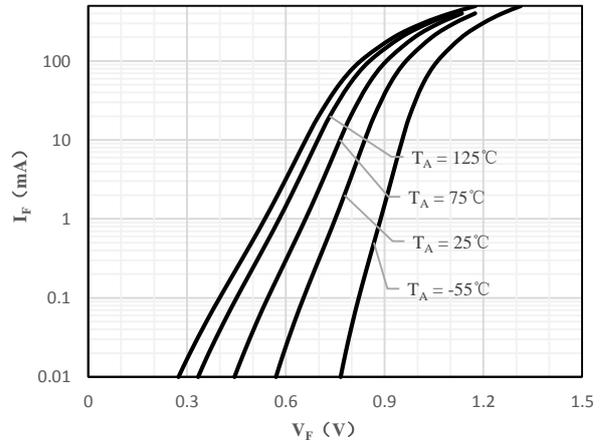
## Electrical Characteristics (@ $T_A = 25^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R = 100\mu A$	85	-	-	V
Forward Voltage	$V_F$	$I_F = 1mA$	-	-	0.9	V
		$I_F = 10mA$	-	-	1	V
		$I_F = 50mA$	-	-	1.1	V
		$I_F = 150mA$	-	-	1.25	V
Maximum Peak Reverse Current	$I_R$	$V_R = 75V, T_J = 25^{\circ}C$	-	-	5	nA
		$V_R = 75V, T_J = 150^{\circ}C$	-	-	80	nA
Total Capacitance	$C_J$	$V_R = 0V, f = 1.0MHz$	-	-	2	pF
Reverse Recovery Time	$t_{rr}$	$I_F = I_R = 10mA$ $I_{rr} = 0.1 \times I_R, R_L = 100\Omega$	-	-	3	$\mu s$

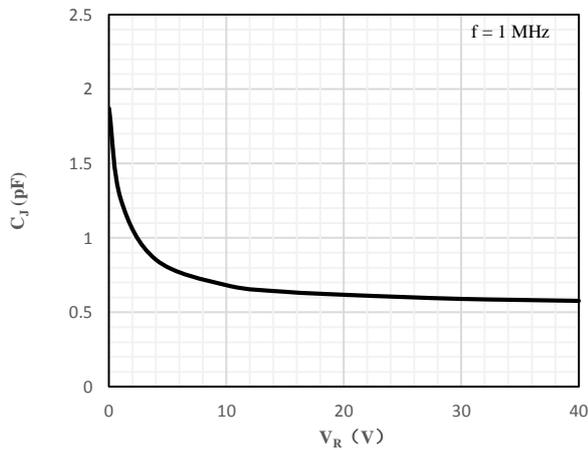
**Ratings and Characteristics Curves** (@  $T_A = 25^\circ\text{C}$  unless otherwise specified)



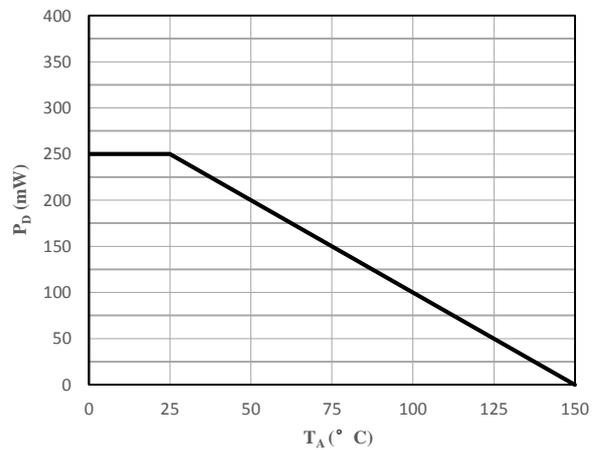
**Fig 1 Typical Reverse Characteristic**



**Fig 2 Typical Forward Characteristics**

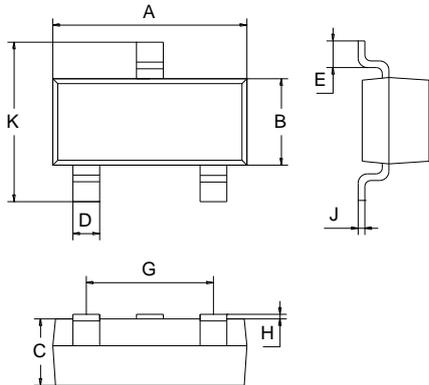


**Fig 3 Capacitance vs. Reverse Voltage**



**Fig 4 Power Derating Curve**

**Package Outline Dimensions** (Unit: mm)



SOT-23		
Dimension	Min.	Max.
A	2.70	3.10
B	1.10	1.50
C	0.90	1.10
D	0.30	0.50
E	0.35	0.48
G	1.80	2.00
H	0.02	0.10
J	0.05	0.15
K	2.20	2.60

**Package Outline Dimensions** (Unit: mm)

**SOT-23**

