

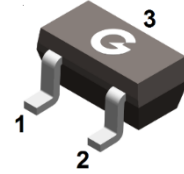
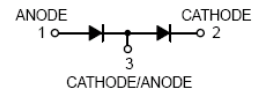
Features

- Fast switching speed
- High conductance
- Connected in series
- RoHS compliant with Halogen-free

HF

Mechanical Data

- Case: SOT-523
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208



SOT-523

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
BAV99T	SOT-523	3000 pcs / Tape & Reel	JE

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Repetitive Peak Reverse Voltage	V _{RRM}	85	V
Working Peak Reverse Voltage	V _{RWM}	85	V
DC Blocking Voltage	V _R	85	V
RMS Reverse Voltage	V _{R(RMS)}	60	V
Forward Current	I _{FM}	200	mA
Repetitive Peak Forward Current	I _{FRM}	500	mA
Peak Forward Surge Current, 1μs Single Half-sine-wave	I _{FSM}	4.5	A
Peak Forward Surge Current, 1ms Single Half-sine-wave	I _{FSM}	1	A
Peak Forward Surge Current, 1s Single Half-sine-wave	I _{FSM}	0.5	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation	P _D	150	mW
Thermal Resistance Junction-to-Air ^{*1}	R _{θJA}	170	°C/W
Thermal Resistance Junction-to-Case ^{*1}	R _{θJC}	100	°C/W
Thermal Resistance Junction-to-Lead ^{*1}	R _{θJL}	90	°C/W
Operating Junction Temperature Range	T _J	-65 ~ +150	°C
Storage Temperature Range	T _{STG}	-65 ~ +150	°C

Note 1: The data tested by surface mounted on a 1 inch² FR-4 board with 2OZ copper

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R = 100\mu\text{A}$	85	-	-	V
Forward Voltage	V_F	$I_F = 1\text{mA}$	-	-	0.715	V
		$I_F = 10\text{mA}$	-	-	0.855	V
		$I_F = 50\text{mA}$	-	-	1.000	V
		$I_F = 150\text{mA}$	-	-	1.250	V
Maximum Peak Reverse Current	I_R	$V_R = 25\text{V}$	-	-	30	nA
		$V_R = 25\text{V}, T_J = 150^\circ\text{C}$	-	-	60	μA
		$V_R = 75\text{V}$	-	-	2	μA
		$V_R = 75\text{V}, T_J = 150^\circ\text{C}$	-	-	100	μA
Total Capacitance	C_T	$V_R = 0\text{V}, f = 1.0\text{MHz}$	-	-	1.5	pF
Reverse Recovery Time	t_{rr}	$I_F = I_R = 10\text{mA}$ $I_{rr} = 0.1 \times I_R, R_L = 100\Omega$	-	-	4	ns

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

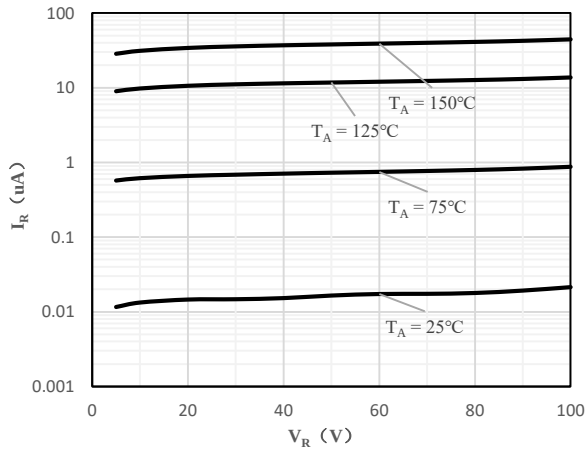


Fig 1 Typical Reverse Characteristic

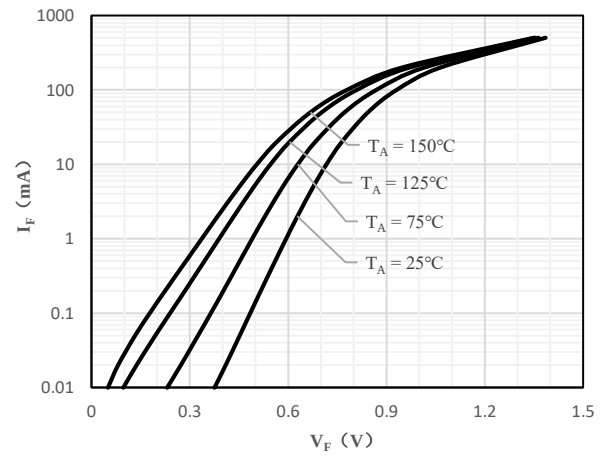


Fig 2 Typical Forward Characteristics

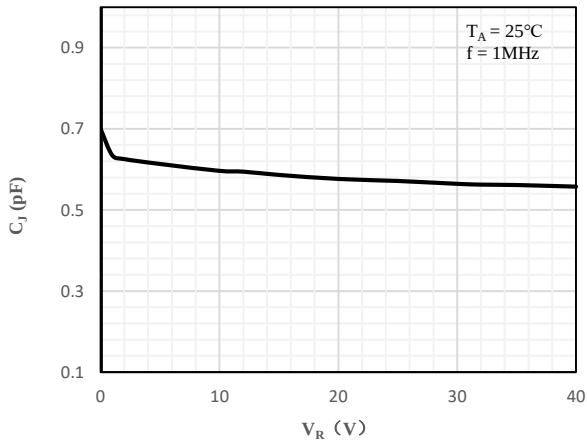


Fig 3 Capacitance vs. Reverse Voltage

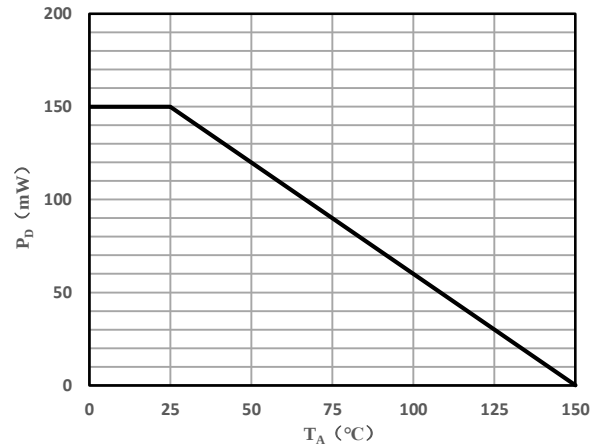
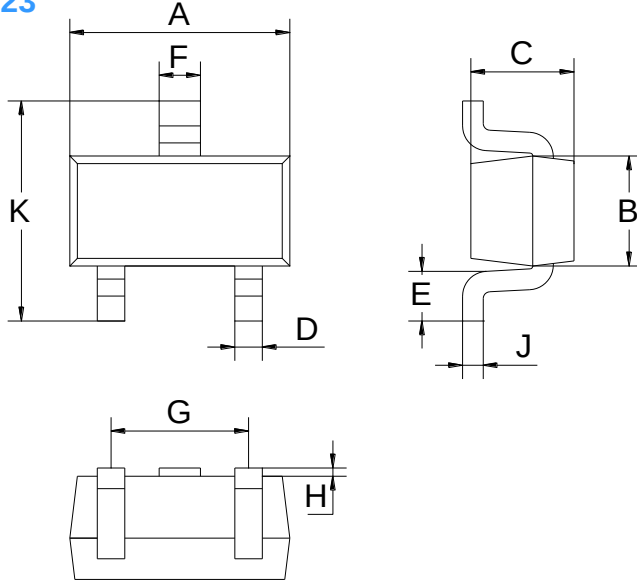


Fig 4 Power Derating Curve

Package Outline Dimensions (unit: mm)

SOT-523



SOT-523		
Dim	Min	Max
A	1.50	1.70
B	0.75	0.85
C	0.60	0.80
D	0.15	0.30
E	0.30	0.40
F	0.25	0.40
G	0.90	1.10
H	0.02	0.10
J	0.08	0.18
K	1.45	1.75

Mounting Pad Layout (unit: mm)

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