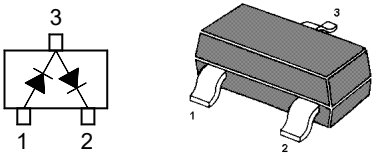


BAV99S

Silicon Epitaxial Planar Switching Diode

Fast switching in thick and thin-film circuits diode



1. Anode 2. Cathode 3. Anode/Cathode
SOT-23 Plastic Package

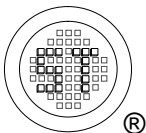
Absolute Maximum Ratings ($T_a = 25^{\circ}\text{C}$)

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	100	V
Continuous Reverse Voltage	V_R	100	V
Continuous Forward Current (Double Diode Loaded)	I_F	125	mA
Continuous Forward Current (Single Diode Loaded)	I_F	215	mA
Repetitive Peak Forward Current	I_{FRM}	450	mA
Non-repetitive Peak Forward Surge Current	I_{FSM}	0.5 1 4.5	A
Power Dissipation	P_D	350	mW
Junction Temperature	T_j	150	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	- 65 to + 150	$^{\circ}\text{C}$

Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance - Junction to Ambient ¹⁾	$R_{\theta JA}$	357	$^{\circ}\text{C/W}$

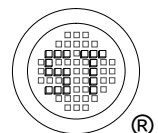
¹⁾ Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.



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Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit
Reverse Breakdown Voltage at $I_R = 100\ \mu\text{A}$	$V_{(BR)R}$	100	-	V
Forward Voltage at $I_F = 1\ \text{mA}$ at $I_F = 10\ \text{mA}$ at $I_F = 50\ \text{mA}$ at $I_F = 150\ \text{mA}$	V_F	- - - -	0.715 0.855 1 1.25	V
Reverse Current at $V_R = 25\ \text{V}$ at $V_R = 75\ \text{V}$ at $V_R = 25\ \text{V}$, $T_j = 150^\circ\text{C}$ at $V_R = 75\ \text{V}$, $T_j = 150^\circ\text{C}$	I_R	- - - -	30 1 30 50	nA μA μA μA
Total Capacitance at $V_R = 0\ \text{V}$, $f = 1\ \text{MHz}$	C_T	-	1.5	pF
Reverse Recovery Time at $I_F = 10\ \text{mA}$, $I_{rr} = 0.1 \times I_R$, $V_R = 6\ \text{V}$, $R_L = 100\ \Omega$	t_{rr}	-	4	ns



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Electrical Characteristics Curves

Fig 1. Power Derating Curve

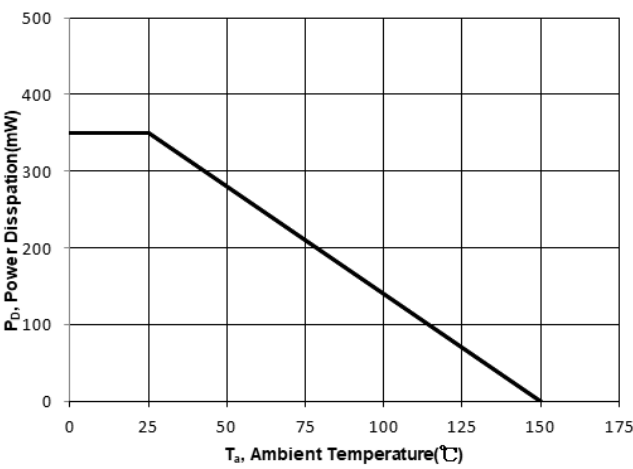


Fig 2. Capacitance Characteristics

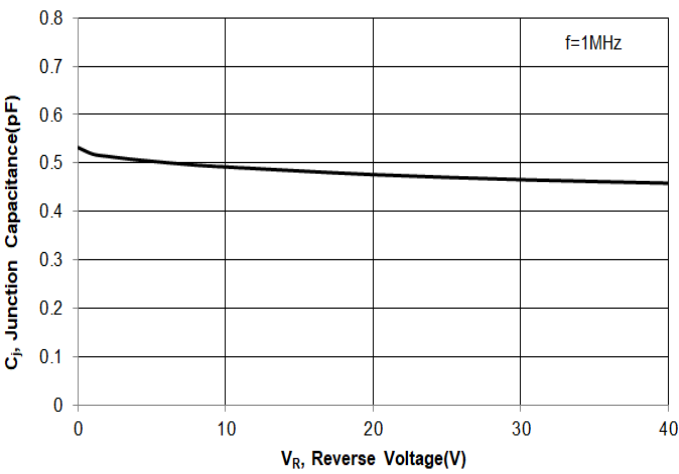


Fig 3. Reverse Characteristics

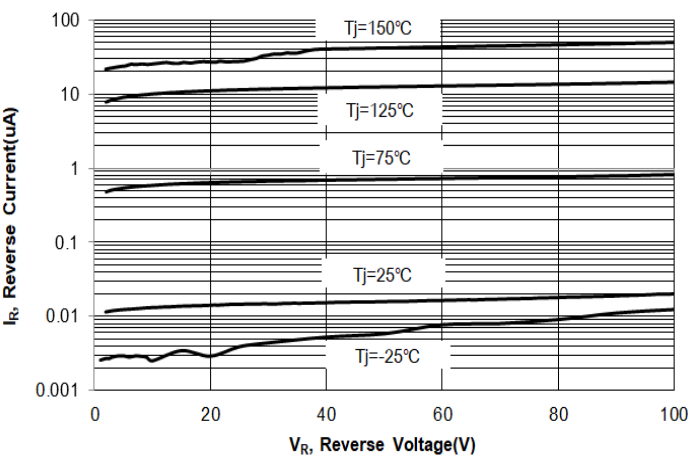
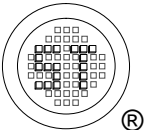
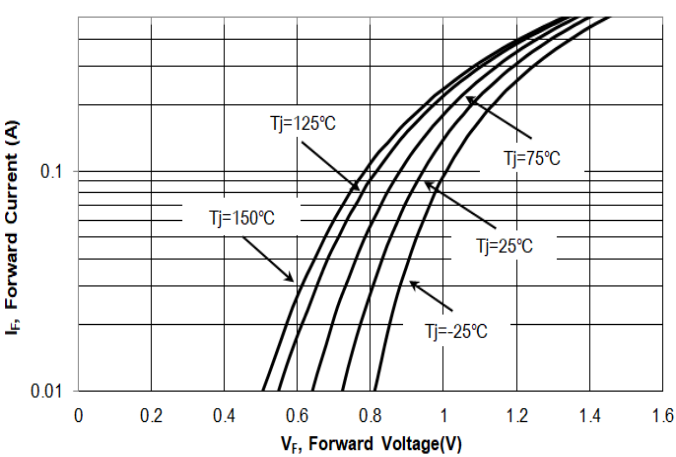


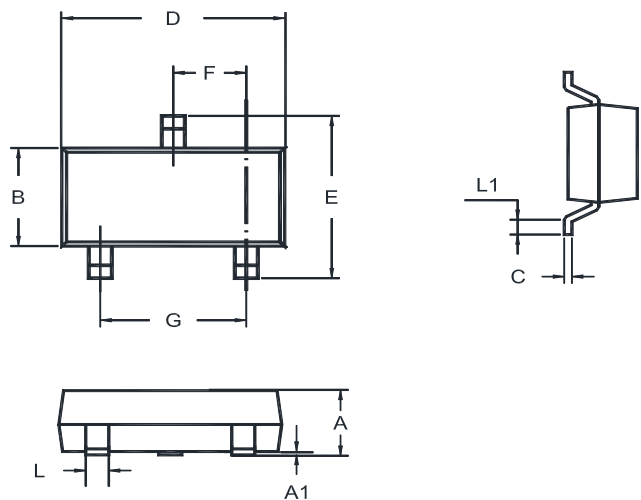
Fig 4. Forward Characteristics



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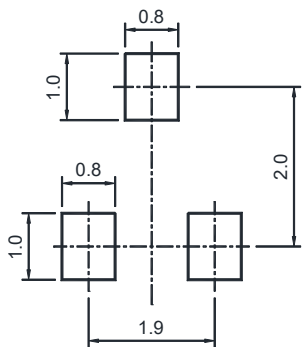
Package Outline (Dimensions in mm)

SOT-23



Unit	A	A1	B	C	D	E	F	G	L	L1
mm	1.20 0.89	0.100 0.013	1.40 1.20	0.19 0.08	3.04 2.80	2.6 2.2	1.02 0.89	2.04 1.78	0.51 0.37	0.2 MIN

Recommended Soldering Footprint



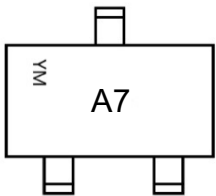
Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOT-23	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

Marking information

" A7 " = Part No.
" YM " = Date Code Marking
" Y " = Year
" M " = Month

Font type: Arial



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