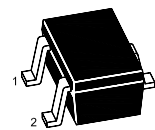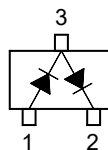# BAV99SEW

Silicon Epitaxial Planar Switching Diode

SOT-323 Plastic Package
1. Anode 2. Cathode 3.Cathode / Anode

Absolute Maximum Ratings (T$_a$ = 25℃)

Parameter		Symbol	Value	Unit
Repetitive Peak Reverse Voltage		V$_{RRM}$	100	V
Reverse Voltage		V$_R$	100	V
Continuous Forward Current	Single Diode Load Double Diode Load	I$_F$	150 130	mA
Repetitive Peak Forward Current		I$_{FRM}$	500	mA
Non-Repetitive Peak Forward Surge Current at t = 1 µs at t = 1 ms at t = 1 s		I$_{FSM}$	4 1 0.5	A
Power Dissipation		P$_D$	200	mW
Junction Temperature		T$_j$	150	℃
Storage Temperature Range		T$_{stg}$	- 55 to + 150	℃

Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction to Ambient [1]	R$_{θJA}$	625	℃/W

[1] Device mounted on FR-4 substrate PC board, with minimum recommended pad layout.
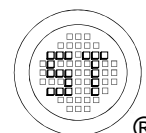
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Characteristics at T_a = 25℃

Parameter	Symbol	Min.	Max.	Unit
Reverse Breakdown Voltage at I_R = 10 µA	$V_{BR(R)}$	100	-	V

Forward Voltage
    at I_F = 1 mA
    at I_F = 10 mA
    at I_F = 50 mA
    at I_F = 150 mA
	V_F	-
		-
		-
		-
			0.715
			0.855
			1
			1.25
				V

Reverse Current
    at V_R = 25 V
    at V_R = 80 V
    at V_R = 25 V, T_j = 150 ℃
    at V_R = 80 V, T_j = 150 ℃
	I_R	-
		-
		-
		-
			30
			0.5
			30
			50
				nA
				µA
				µA
				µA

Diode Capacitance at V_R = 0, f = 1 MHz	C_d	-	1.5	pF
Reverse Recovery Time at I_F = 10 mA, V_R = 6 V, R_L = 100 Ω, I_{RR} = 0.1 × I_R	t_{rr}	-	4	ns
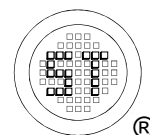
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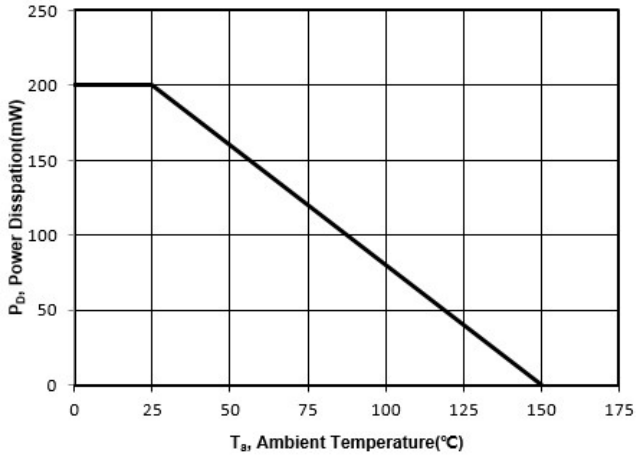## Electrical Characteristics Curves
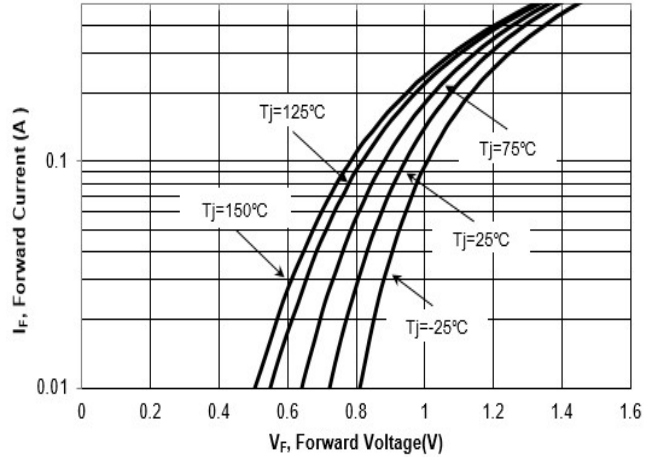
Fig 1. Power Derating Curve

Fig 2. Forward Characteristics
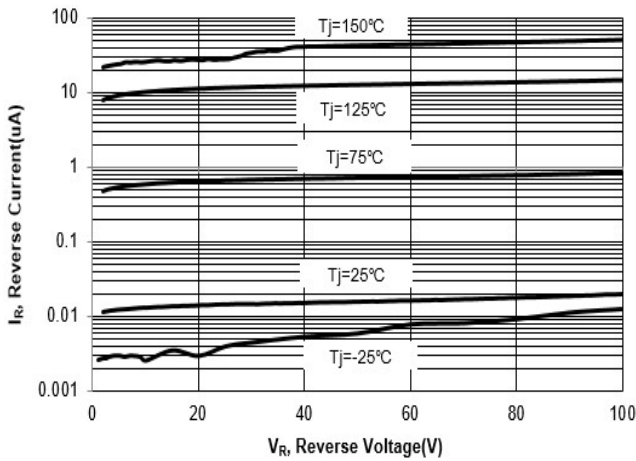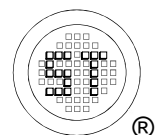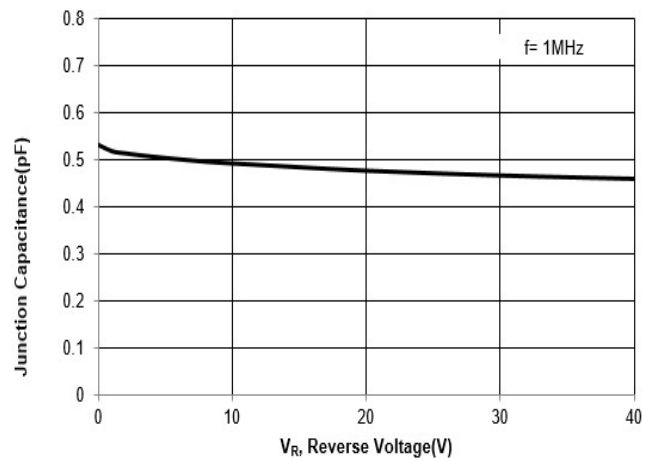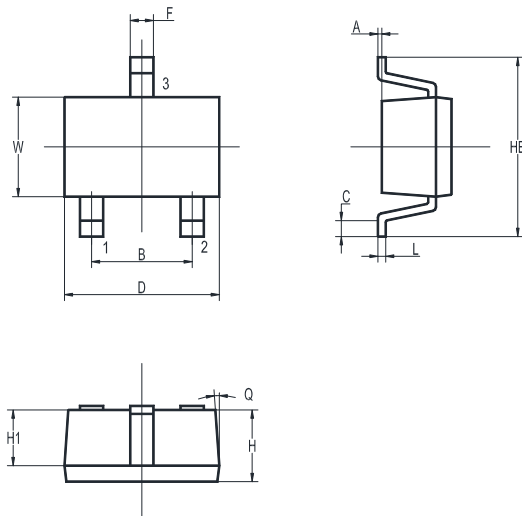

Fig 3. Reverse Current vs. Reverse Voltage
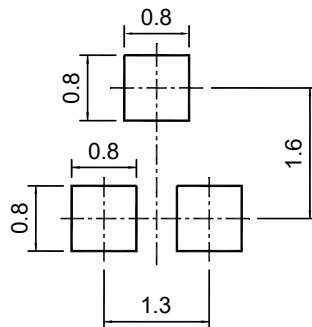

Fig 4. Total Capacitance vs. Reverse Voltage

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Package Outline Dimensions (Units: mm)
SOT-323

UNIT	A	B	C	D	H	H1	HE	F	L	W	Q
mm	0.1	1.4	0.2	2.1	1.0	0.7	2.4	0.35	0.15	1.35	5°
	MAX.	1.2	MIN.	1.9	0.8	TYP.	2.0	0.25	0.05	1.15	MAX.

Recommended Soldering Footprint

Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOT-323	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

Dated: 15/11/2023 Rev: 01