

BAS16W1-AH

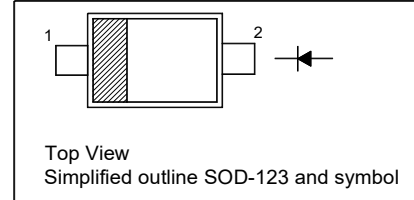
Silicon Epitaxial Planar Switching Diode

Features

- AEC-Q101 Qualified
- High switching speed
- Low capacitance
- Low leakage current
- Halogen and Antimony Free(HAF), RoHS compliant

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



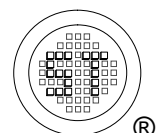
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	100	V
Reverse Voltage	V_R	100	V
Continuous Forward Current	I_F	215	mA
Repetitive Peak Forward Current	I_{FRM}	500	mA
Non-repetitive Peak Forward Surge Current	I_{FSM}	at $t_p = 1\text{ s}$	0.5
		at $t_p = 1\text{ ms}$	1
		at $t_p = 1\text{ }\mu\text{s}$	4
Power Dissipation	P_D	400	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 from Junction to Ambient ¹⁾	$R_{\theta JA}$	313	$^\circ\text{C/W}$

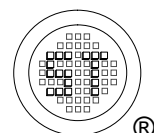
¹⁾ Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.



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

Parameter	Symbol	Min.	Max.	Unit
Reverse Breakdown Voltage at $I_R = 10 \mu\text{A}$	$V_{(BR)R}$	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 $V_R = 80 \text{ V}$ at $V_R = 25 \text{ V}, T_j = 150^\circ\text{C}$ at $V_R = 80 \text{ V}, T_j = 150^\circ\text{C}$	I_R	- - - -	30 0.5 30 50	nA μA μA μA
Diode Capacitance at $V_R = 0 \text{ V}, f = 1 \text{ MHz}$	C_d	-	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

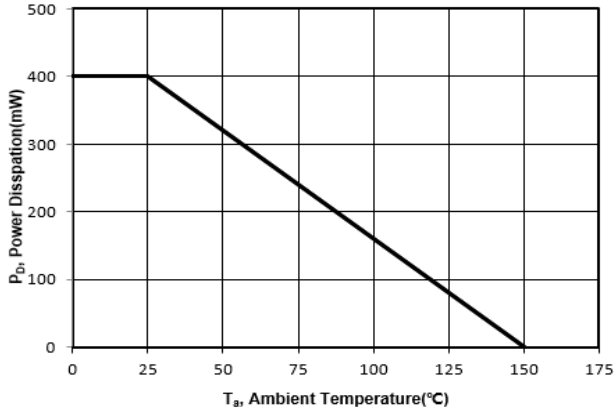


Fig 2. Capacitance Characteristics

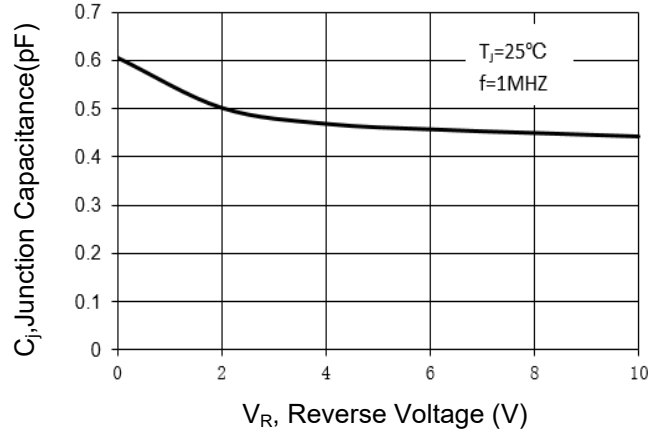


Fig 3. Reverse Characteristics

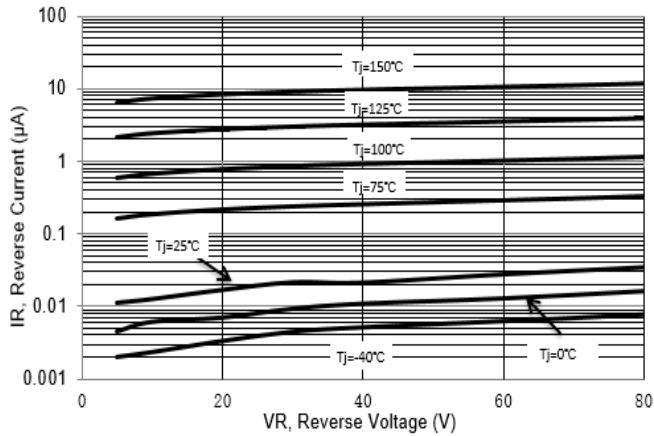
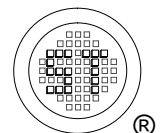
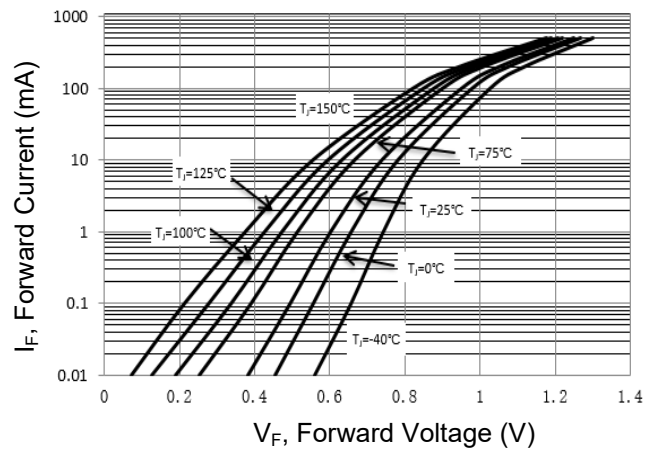


Fig 4. Forward Characteristics

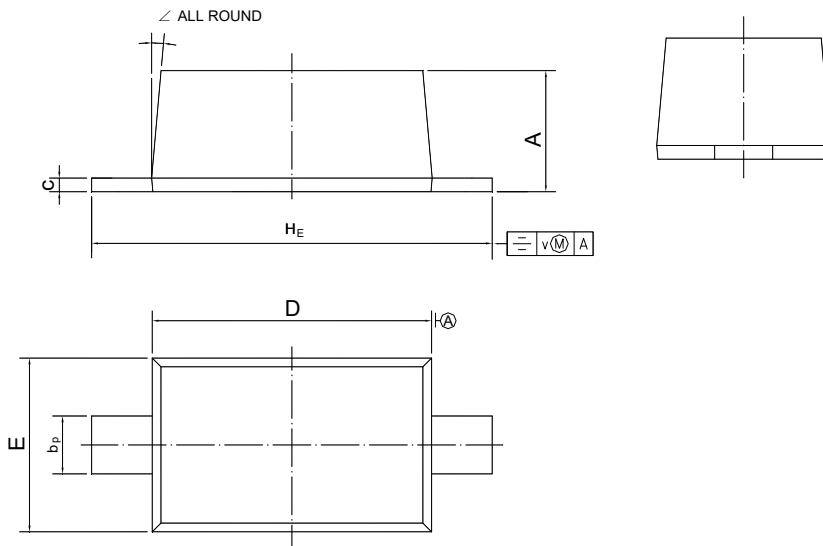


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PACKAGE OUTLINE

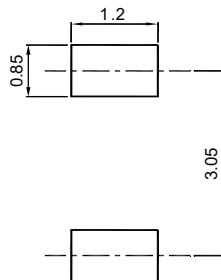
Plastic surface mounted package; 2 leads

SOD-123



UNIT	A	b _p	c	D	E	H _E	v	∠
mm	1.15 1.05	0.6 0.5	0.135 0.100	2.7 2.6	1.65 1.55	3.85 3.55	0.2	5°

Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	(inch)	mm	(inch)	
SOD-123	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

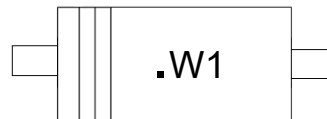
Marking information

"W1" = Part No

"III" = Cathode line

"•" = HAF (Halogen and Antimony Free(HAF))

Font type: Arial



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