

# 1N4148SW

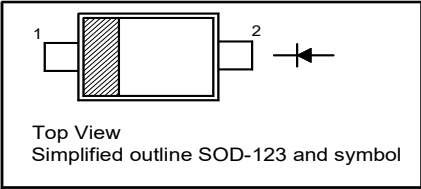
## Silicon Epitaxial Planar Switching Diode

### Features

- Fast switching

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



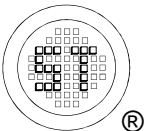
### Absolute Maximum Ratings (T<sub>a</sub> = 25°C)

Parameter	Symbol	Value	Unit
Peak Reverse Voltage	V <sub>RM</sub>	100	V
Reverse Voltage	V <sub>R</sub>	100	V
Average Rectified Forward Current	I <sub>F(AV)</sub>	200	mA
Peak Forward Current	I <sub>FM</sub>	300	mA
Non-repetitive Peak Forward Surge Current	I <sub>FSM</sub>	0.5 1 4	A
Power Dissipation	P <sub>D</sub>	400	mW
Operating Junction Temperature Range	T <sub>j</sub>	- 65 to + 150	°C
Storage Temperature Range	T <sub>stg</sub>	- 65 to + 150	°C

### Thermal Characteristics

Parameter	Symbol	Value	Unit
Thermal Resistance from Junction to Ambient <sup>1)</sup>	R <sub>θJA</sub>	312	°C/W

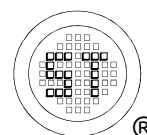
<sup>1)</sup> Device mounted on FR-4 substrate PC board, with minimum recommended pad layout.



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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
Peak Reverse Current at $V_R = 100\ \text{V}$ at $V_R = 20\ \text{V}$ at $V_R = 100\ \text{V}$ , $T_J = 150^\circ\text{C}$ at $V_R = 25\ \text{V}$ , $T_J = 150^\circ\text{C}$	$I_R$	- - - -	1 25 50 30	$\mu\text{A}$ nA $\mu\text{A}$ $\mu\text{A}$
Total Capacitance at $V_R = 0\ \text{V}$ , $f = 1\ \text{MHz}$	$C_T$	-	2	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

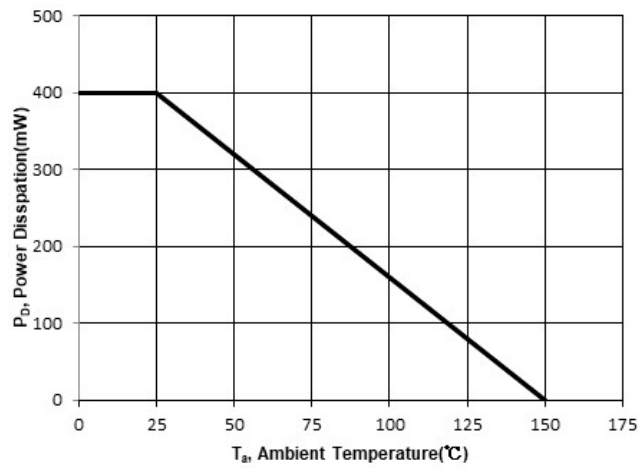


Fig 2. Forward Characteristics

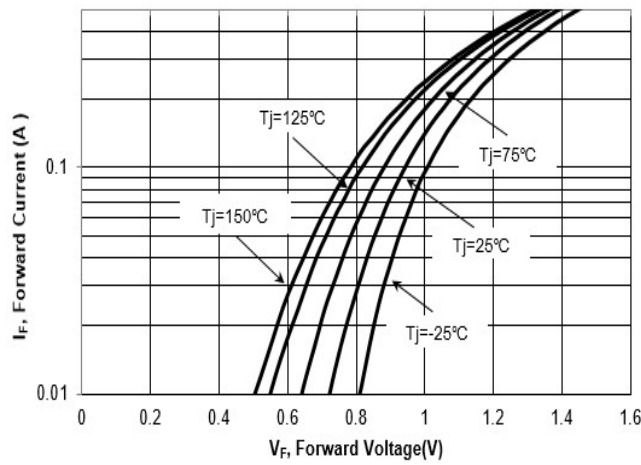


Fig 3. Reverse Current vs. Reverse Voltage

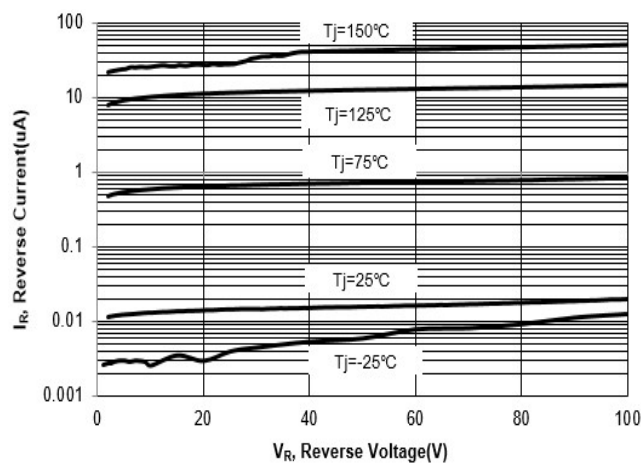
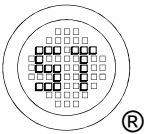
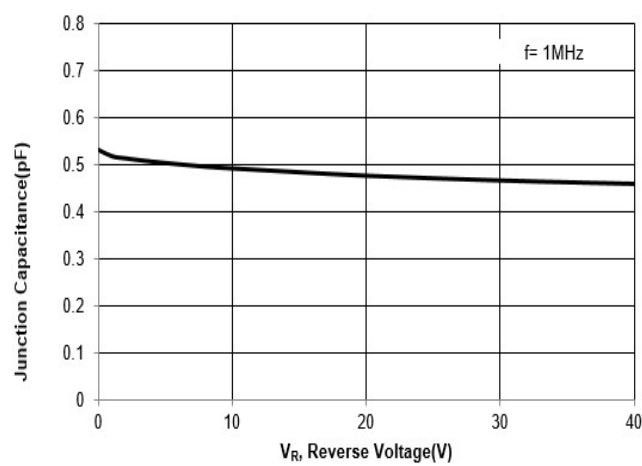


Fig 4. Total Capacitance vs. Reverse Voltage

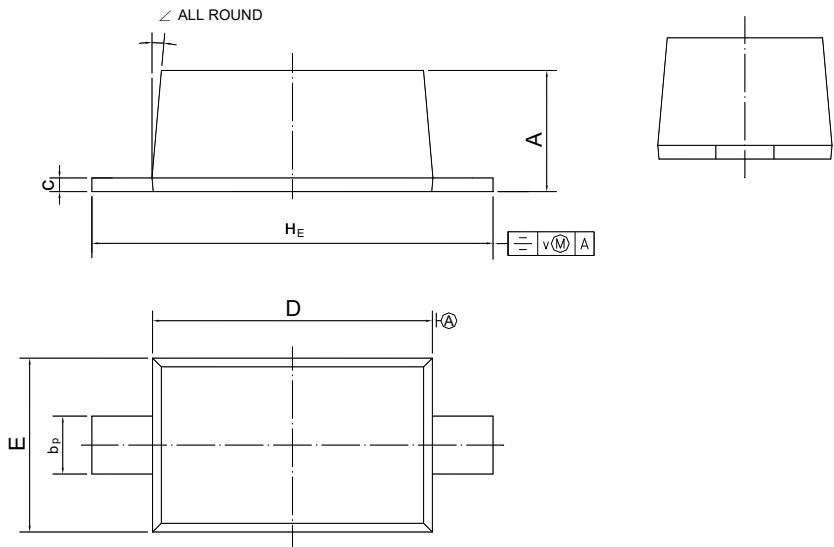


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## PACKAGE OUTLINE

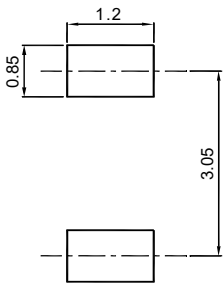
Plastic surface mounted package; 2 leads

SOD-123



UNIT	A	b <sub>p</sub>	c	D	E	H <sub>E</sub>	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

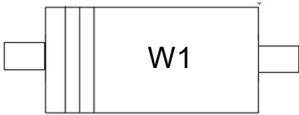


### Packing information

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  
Font type: Arial



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