

# BAS316WS

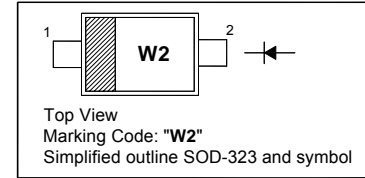
## Silicon Epitaxial Planar Switching Diode

### Applications

- High-speed switching

### PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode

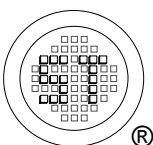


### Absolute Maximum Ratings ( $T_a = 25\text{ }^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	$V_{RRM}$	100	V
Reverse Voltage	$V_R$	100	V
Continuous Forward Current	$I_F$	250	mA
Repetitive Peak Forward Current	$I_{FRM}$	500	mA
Non-Repetitive Peak Forward Current	$I_{FSM}$	$t = 1\ \mu\text{s}$ 4	A
		$t = 1\ \text{ms}$ 1	
		$t = 1\ \text{s}$ 0.5	
Total Power Dissipation	$P_{tot}$	200	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 65 to + 150	$^\circ\text{C}$

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

Parameter	Symbol	Max.	Unit			
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 $V_R = 25\ \text{V}, T_J = 150\text{ }^\circ\text{C}$ at $V_R = 75\ \text{V}, T_J = 150\text{ }^\circ\text{C}$		$I_R$		30 1 30 50	nA $\mu\text{A}$ $\mu\text{A}$ $\mu\text{A}$	
Diode Capacitance at $V_R = 0\ \text{V}, f = 1\ \text{MHz}$				$C_{tot}$	1.5	pF
Reverse Recovery Time at $I_F = I_R = 10\ \text{mA}, I_{rr} = 0.1 \times I_R, R_L = 100\ \Omega$				$t_{rr}$	4	ns



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Dated : 15/06/2009

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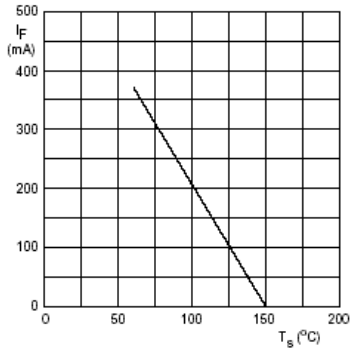
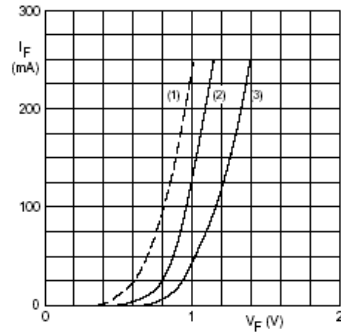
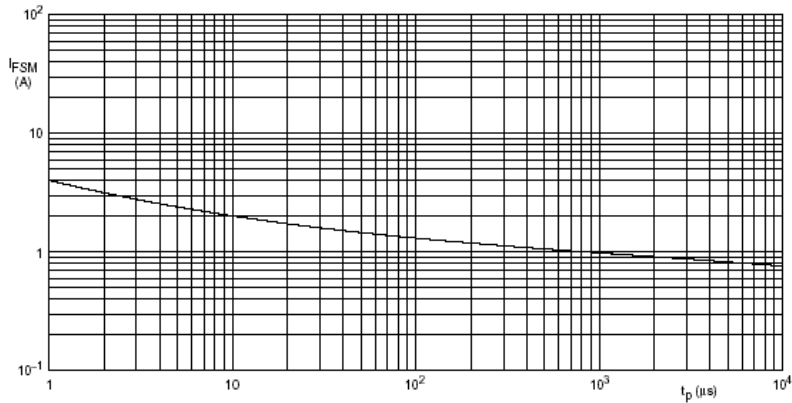


Fig.1 Maximum permissible continuous forward current as a function of soldering point temperature.



(1)  $T_j = 150^{\circ}$ C; typical values.  
 (2)  $T_j = 25^{\circ}$ C; typical values.  
 (3)  $T_j = 25^{\circ}$ C; maximum values.

Fig.2 Forward current as a function of forward voltage.



Based on square wave currents.  
 $T_j = 25^{\circ}$ C prior to surge.

Fig.3 Maximum permissible non-repetitive peak forward current as a function of pulse duration.

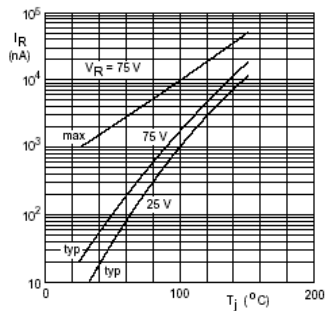
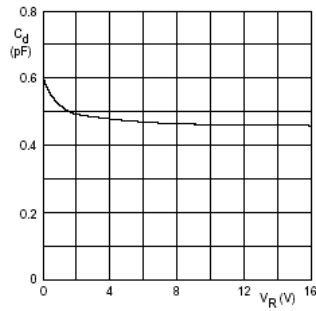
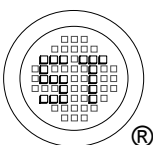


Fig.4 Reverse current as a function of junction temperature.



$f = 1$  MHz;  $T_j = 25^{\circ}$ C.

Fig.5 Diode capacitance as a function of reverse voltage; typical values.



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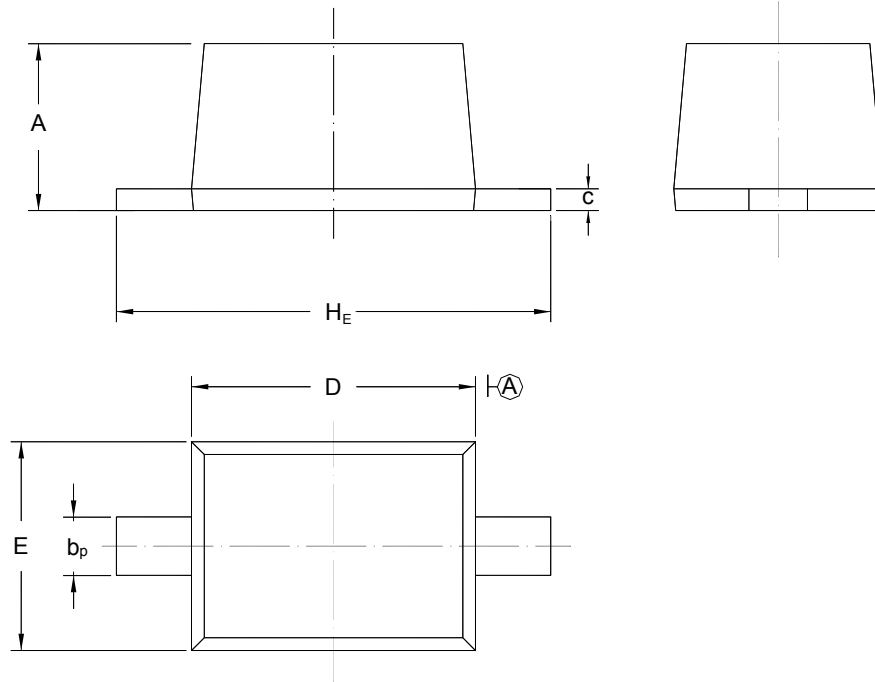
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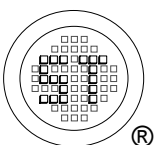
## PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD-323



UNIT	A	b <sub>p</sub>	C	D	E	H <sub>E</sub>
mm	1.10 0.80	0.40 0.25	0.15 0.10	1.80 1.60	1.35 1.15	2.80 2.30



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