



# BAS19WS THRU BAS21WS

## SWITCHING DIODE

### 1. Features

SOD-323

- Fast Switching Speed
- For General Purpose Switching Applications
- High Conductance



### 2. Mechanical Data

- Case:Molded Plastic,SOD-323.
- Epoxy:UL 94V-0 rate flame retardant.
- Terminals:Plated Leads Solderable per MIL-STD-750, Method-2026.
- Marking:BAS19WS: A8; BAS20WS: T2; BAS21WS: T3
- Marking:marked on body.



### 3. Maximum Ratings

Electrical Characteristics Rating at 25°C ambient temperature unless otherwise specified.

Characteristic	Symbol	BAS19WS	BAS20WS	BAS21WS	Unit
Non-Repetitive Peak Reverse Voltage	$V_{RM}$	120	200	250	V
Peak Repetitive Peak Reverse Voltage	$V_{RRM}$	100	150	250	V
Working Peak Reverse Voltage	$V_{RWM}$	100	150	250	V
DC Blocking Voltage	$V_R$	100	150	250	V
RMS Reverse Voltage	$V_{R(RMS)}$	71	106	141	V
Forward Continuous Current	$I_{FM}$	400			mA
Average Rectified Output Current	$I_O$	200			mA
Non-Repetitive Peak Forward Current $t = 1.0$ ms	$I_{FSM}$	2.5			A
Non-Repetitive Peak Forward Current $t = 1$ s		0.5			A
Repetitive Peak Forward Current	$I_{FRM}$	625			mA
Power Dissipation	$P_D$	200			mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	625			°C/W
Junction And Storage Temperature Range	$T_J, T_{stg}$	-55 to +150			°C

### 4. Electrical Characteristics ( $T_a=25^\circ\text{C}$ unless otherwise noted)

Parameters	Symbol	Cindition	Min	TYP	Max	Unit
Forward Voltage	$V_F$	$I_F = 0.1\text{A}$ $I_F = 0.2\text{A}$	-	-	1.0 1.25	V
Reverse Current	$I_R$	BAS19WS $V_R = 100\text{V}$	-	-	0.1	$\mu\text{A}$
		BAS20WS $V_R = 150\text{V}$	-	-	0.1	$\mu\text{A}$
		BAS21WS $V_R = 200\text{V}$	-	-	0.1	$\mu\text{A}$
Capacitance between terminals	$C_T$	$V_R = 0\text{V}, f = 1\text{MHz}$	-	-	5	pF
Reverse Recovery Time	$t_{rr}$	$I_F=I_R=30\text{mA}, I_{rr}=0.1*I_R,$ $R_L=100\Omega$	-	-	50	ns



### 5. Rating And Characteristic Curves

Fig.1 Forward Characteristics

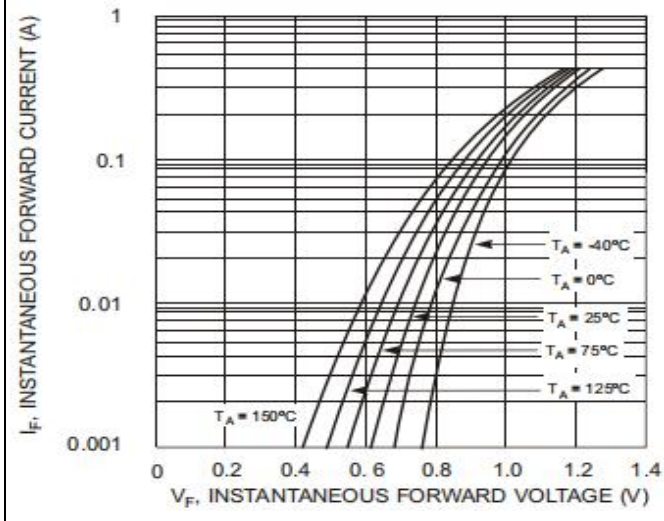


Fig.2 Reverse Characteristics

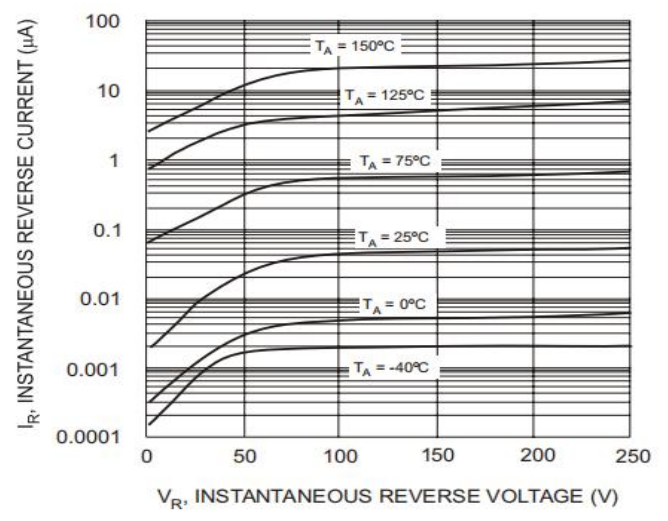


Fig.3 Capacitance Characteristics

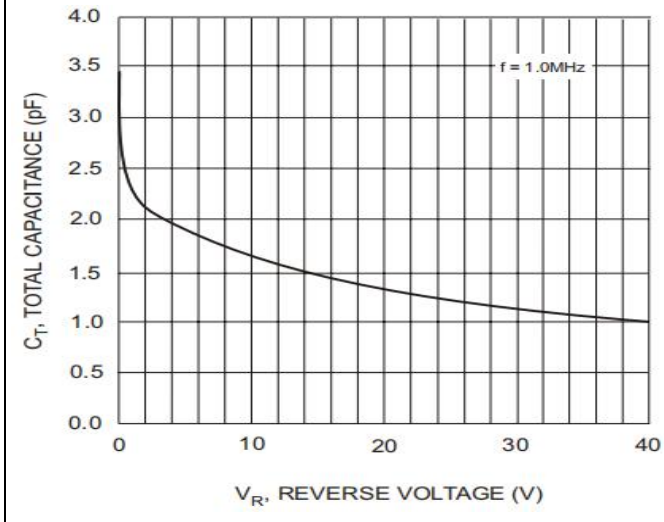
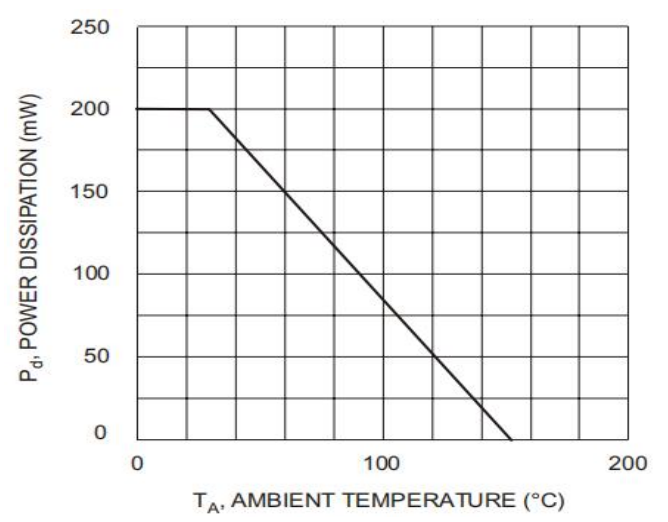
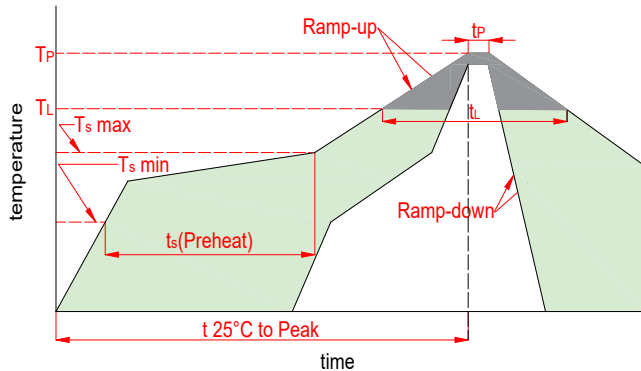


Fig.4 Power Derating Curve



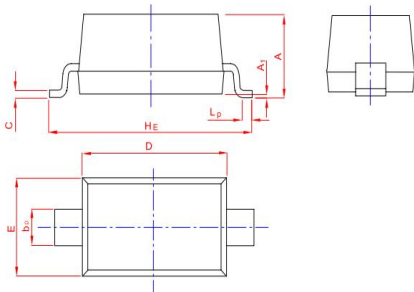


### 6. Soldering Parameters



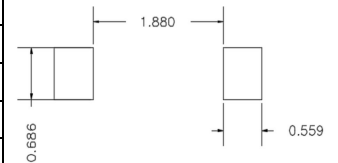
Reflow Condition		Lead-free
Pre Heat	Temp. min( $T_s$ (min))	150°C
	Temp. max( $T_s$ (min))	200°C
	Time(min to max)( $t_s$ )	60~120s
Aver. ramp up rate(Liquidus Temp.)( $T_L$ )to peak		3°C/s max
$T_s$ (max) to $T_L$ -Ramp-up Rate		3°C/s max
Reflow	Temp. ( $T_L$ )(Liquidus)	217°C
	Temp. ( $t_L$ )(Liquidus)	60~150s
Peak Temp. ( $T_P$ )		260 <sup>+0/-5</sup> °C
Time within actual peak Temp. ( $t_p$ )		30s max
Ramp-down Rate		6°C/s max
Time 25°C to peak Tempe. ( $T_p$ )		8 minutes max
Do not exceed		260°C

### 7. Dimensions

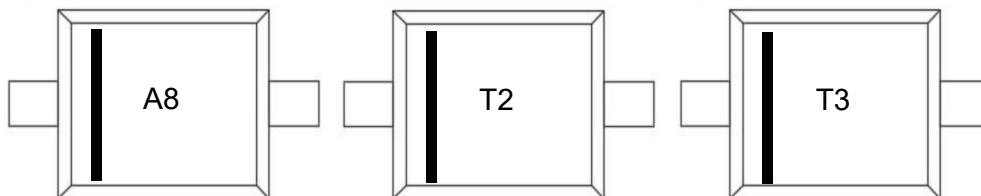


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.031	0.047	0.800	1.200
bp	0.010	0.016	0.250	0.400
C	0.003	0.006	0.080	0.150
D	0.063	0.071	1.600	1.800
E	0.045	0.055	1.150	1.400
HE	0.091	0.110	2.300	2.800
A1	0.000	0.004	0.010	0.100
LP	0.008	0.020	0.200	0.500

Mounting PAD Layout



### 8. Part Marking System



### 9. Package Information

Package	Type	Marking Code	Tape Width (mm)	Quantity(pcs)
SOD-323	BAS19WS	A8	8	3000
SOD-323	BAS20WS	T2	8	3000
SOD-323	BAS21WS	T3	8	3000



### Important Notice and Disclaimer

- Reproducing and modifying information of the document is prohibited without from XINNUO.
- XINNUO reserves the right to make changes to this document and its products and specifications.
- XINNUO disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- XINNUO does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the here in document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. XINNUO makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown her are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify XINNUO for any damages resulting from such improper use or sale.
- Since XINNUO uses lot number as the tracking base, please provide the lot number for tracking when complaining.