

## FEATURES

- | Low Forward Voltage Drop

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- | Fast Switching Time

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- | Surface Mount Package Ideally Suited for Automatic Insertion



SOD-323

## MECHANICAL DATA

- | SOD-323 Small Outline Plastic Package

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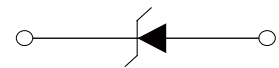
- | Polarity: Color band denotes cathode end

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- | Mounting Position: Any



Marking



Schematic Symbol

## APPROVALS

<b>RoHS</b>	Compliance with 2011/65/EU
<b>HF</b>	Compliance with IEC61249-2-21:2003

## MAXIMUM RATINGS ( $T_A=25^{\circ}\text{C}$ )

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	30	V
Maximum DC blocking voltage	$V_R$	30	V
Maximum RMS reverse voltage	$V_{R(RMS)}$	21	V
Forward Continuous Current	$I_{FM}$	200	mA
Repetitive Peak Forward Current @ $t<1.0s$	$I_{FRM}$	500	mA
Non-Repetitive Peak Forward Surge Current @ $t=8.3ms$	$I_{FSM}$	4	A
Power Dissipation	$P_D$	500	mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	200	$^{\circ}\text{C}/\text{W}$
Operating junction temperature	$T_J$	125	$^{\circ}\text{C}$
Storage temperature range	$T_{STG}$	-55-+150	$^{\circ}\text{C}$

## ELECTRICAL CHARACTERISTICS ( $T_A=25^{\circ}\text{C}$ )

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Maximum Forward Voltage	$V_F$	$I_F=200\text{mA}$			1.0	V
		$I_F=2.0\text{mA}$	0.26		0.33	V
		$I_F=15\text{mA}$			0.45	V
Reverse Breakdown Voltage	$V_{(BR)}$	$I_R=10\mu\text{A}$	30			V
Reverse Leakage Current	$I_R$	$V_R=25\text{V}$			0.5	$\mu\text{A}$
Capacitance Between Terminals	$C_T$	$V_R=1.0\text{V}, f=1.0\text{MHz}$			10	pF
Reverse Recovery Time	$T_{RR}$	$I_F=I_R=10\text{mA}, R_L=100\Omega$ $I_{RR}=0.1 \times I_R$			5	nS

## CHARACTERISTIC CURVES

Fig.1 Forward Characteristics

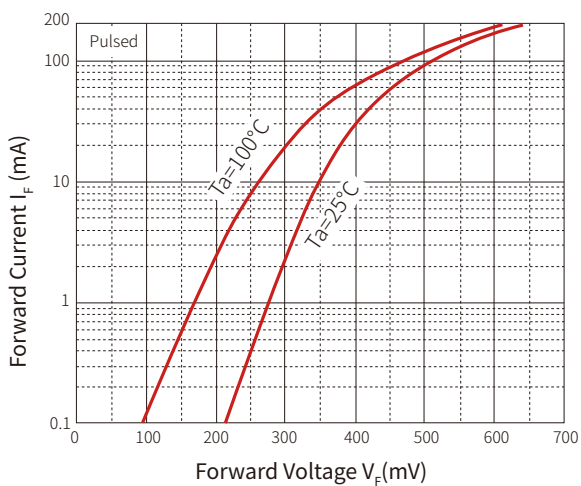
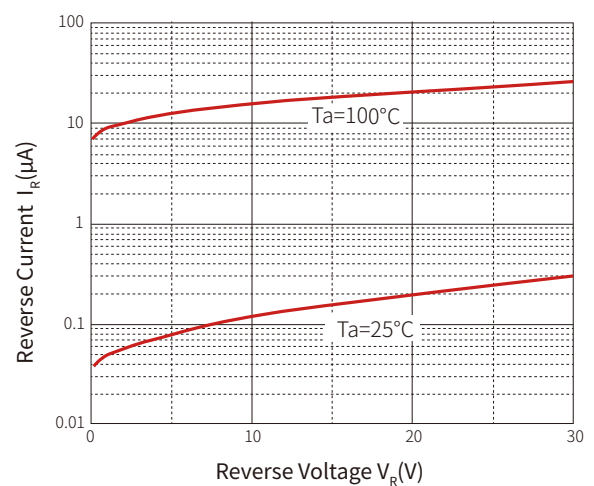
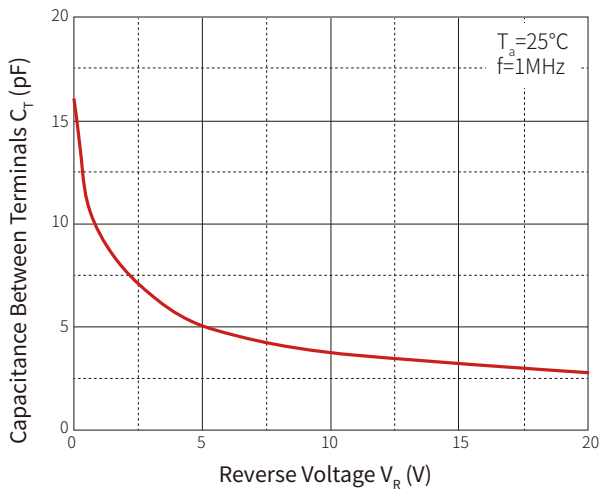
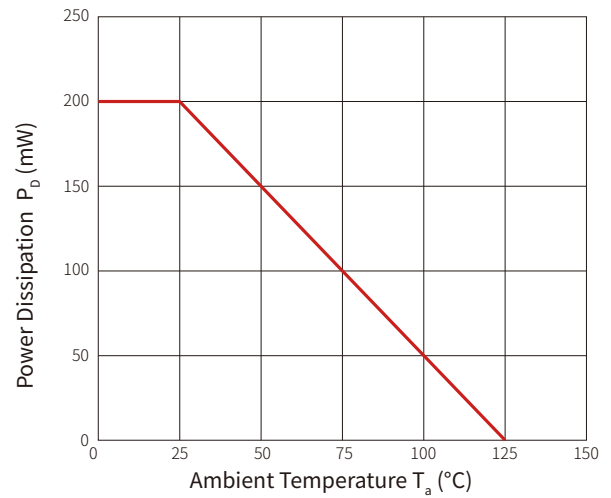


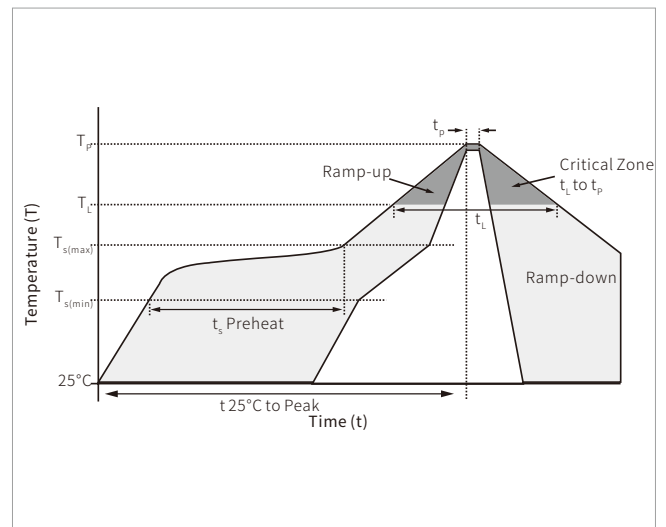
Fig.2 Reverse Characteristics



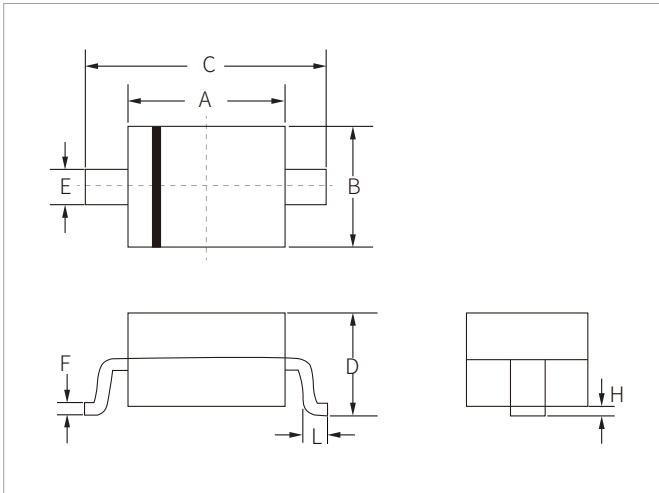
**Fig.3 Capacitance Characteristics**

**Fig.4 Power Derating Curve**


## SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ( $T_{s(\text{min})}$ )	150 $^\circ\text{C}$
	Temperature Max ( $T_{s(\text{max})}$ )	200 $^\circ\text{C}$
	Time (min to max) ( $t_s$ )	60 – 180 secs
Average ramp up rate (Liquidus Temp ( $T_L$ ) to peak)		3 $^\circ\text{C}/\text{second}$ max
$T_{s(\text{max})}$ to $T_L$ - Ramp-up Rate		3 $^\circ\text{C}/\text{second}$ max
Reflow	Temperature ( $T_L$ ) (Liquidus)	217 $^\circ\text{C}$
	Time (min to max) ( $t_L$ )	60 – 150 seconds
Peak Temperature ( $T_p$ )		260 $^\circ\text{C}$
Time within 5 $^\circ\text{C}$ of actual peak Temperature ( $t_p$ )		20 – 40 seconds
Ramp-down Rate		6 $^\circ\text{C}/\text{second}$ max
Time 25 $^\circ\text{C}$ to peak Temperature ( $T_p$ )		8 minutes max.
Do not exceed		260 $^\circ\text{C}$

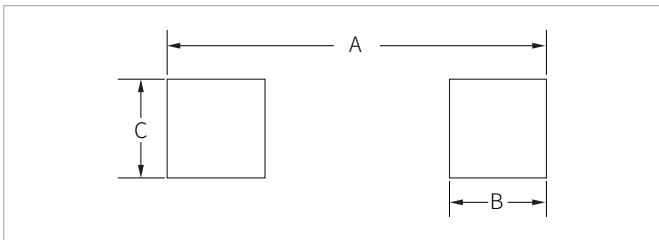


## SOD-323 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.60	1.90	0.063	0.075
B	1.15	1.45	0.045	0.057
C	2.35	2.75	0.093	0.108
D	0.80	1.10	0.031	0.043
E	0.25	0.40	0.010	0.016
F	0.10	0.20	0.004	0.008
H	-	0.10	-	0.004
L	0.20	0.40	0.008	0.016

## RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.87	3.12	0.113	0.123
B	0.66	0.91	0.026	0.036
C	0.66	0.91	0.026	0.036

## ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
BAT43WS	SOD-323	3000PCS	7"

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