

## FEATURES

For Use In Low Voltage, High Frequency Inverters Free Wheeling,  
 And Polarity Protection Applications



SOD-323

## MECHANICAL DATA

Encapsulation: SOD-323 Small Outline Plastic Package  
 Polarity: Color band denotes cathode end  
 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 ( $T_A=25^{\circ}\text{C}$ )

Symbol	Parameter	Value	Unit
$V_{RM}$	Non-repetitive Peak Reverse Voltage	20	V
$V_{RRM}$	Peak Repetitive Peak Reverse Voltage		
$V_{RWM}$	Working Peak Reverse Voltage		
$V_R$	DC Blocking Voltage		
$V_{R(RMS)}$	RMS Reverse Voltage	14	
$I_O$	Average Rectified Output Current	1	A
$I_{FSM}$	Non-repetitive Peak Forward Surge Current @t=8.3ms	9	
$I_{FRM}$	Repetitive Peak Forward Current	1.5	
$P_d$	Power Dissipation	250	mW
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	400	$^{\circ}\text{C}/\text{W}$
$T_J$	Junction Temperature	125	$^{\circ}\text{C}$
$T_{STG}$	Storage Temperature	-55~+150	

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

Symbol	Parameter	Test	Min.	Max.	Unit
$V_{BR}$	Reverse Breakdown Voltage	$I_R=1\text{mA}$	20		V
$I_R$	Reverse Voltage Leakage Current	$V_R=20$		1	mA
$V_F$	Reverse Leakage Current	$I_F=1\text{A}$		0.45	V
		$I_F=3\text{A}$		0.75	
$C_D$	Diode Capacitance	$V_F=4\text{V}, f=1\text{MHz}$		120	pF

## CHARACTERISTIC CURVES

Fig.1 Forward Characteristics

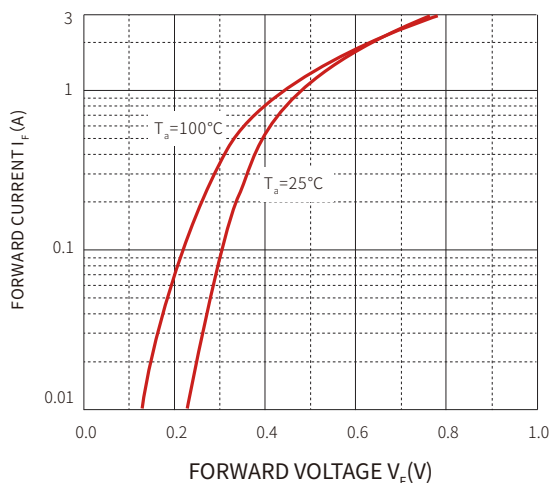


Fig.2 Reverse Characteristics

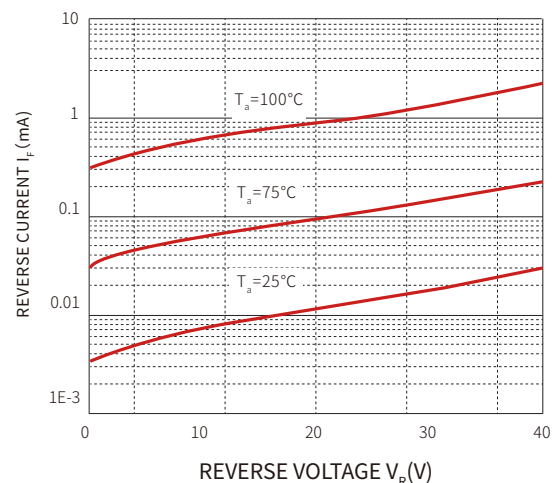


Fig.3 Capacitance Characteristics

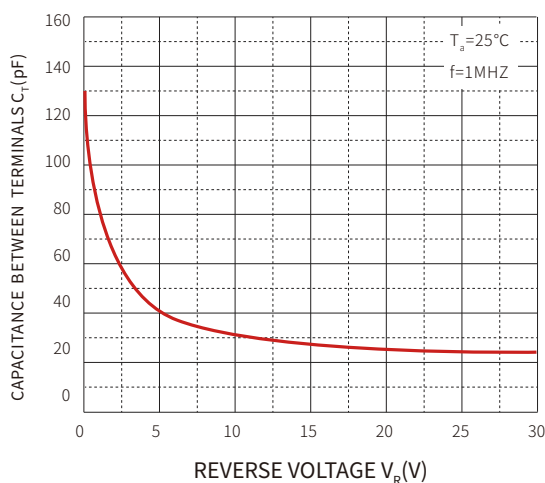
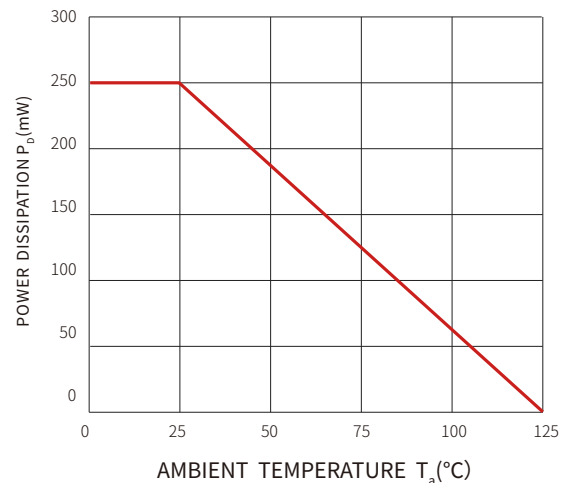
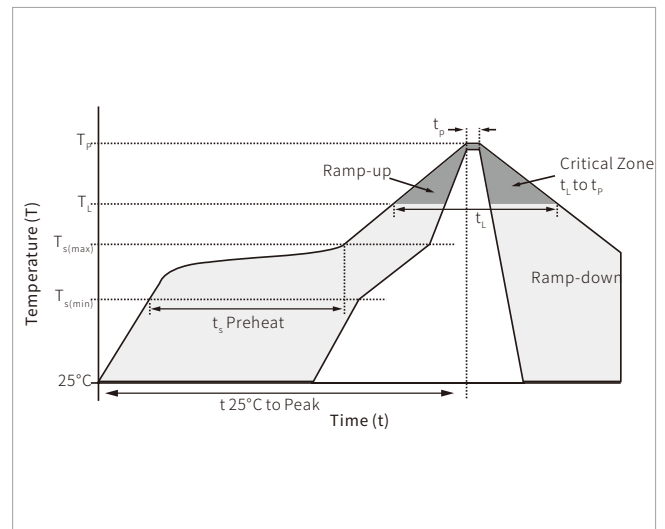


Fig.4 Power Derating Curve

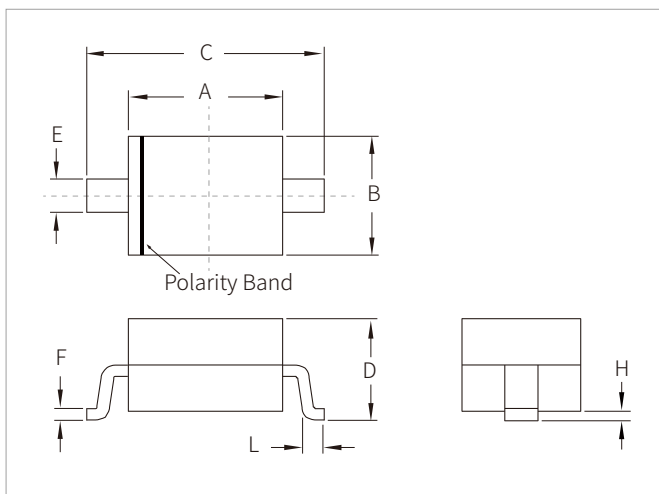


## SOLDERING PARAMETERS

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

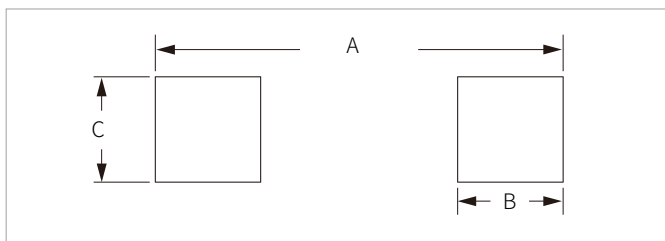


## SOD-323 PACKAGE INFORMATION



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	2.70	0.093	0.106
D	0.80	1.10	0.031	0.042
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	-	0.008	-

## 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
B5817WS	SOD-323	3000PCS	7"

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