

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

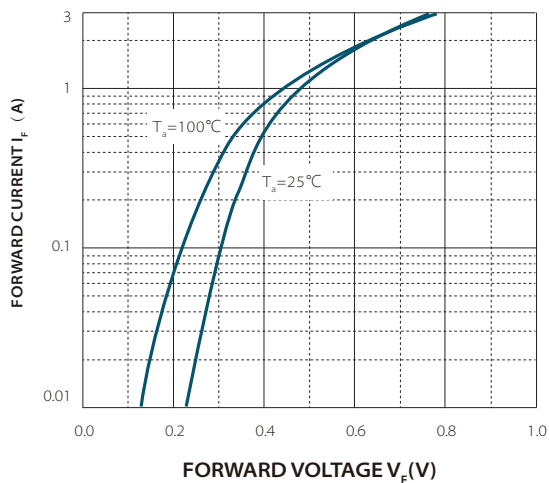
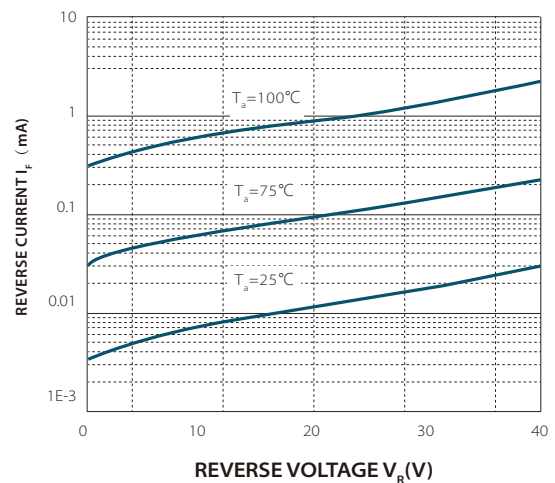
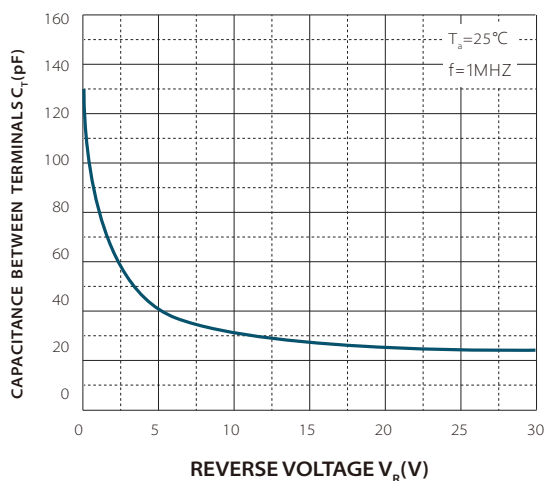
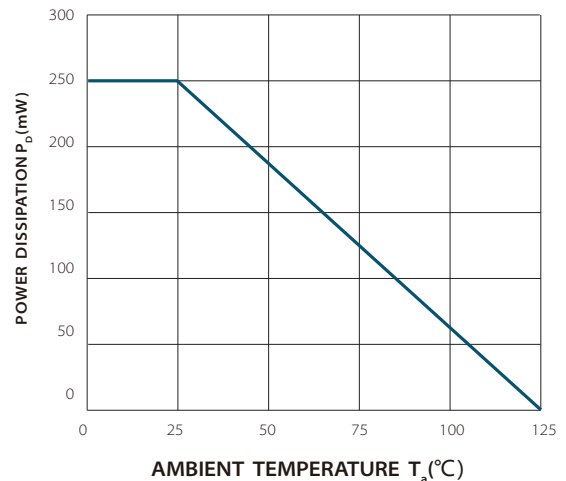
RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$)

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 @ $t=8.3\text{ms}$	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	

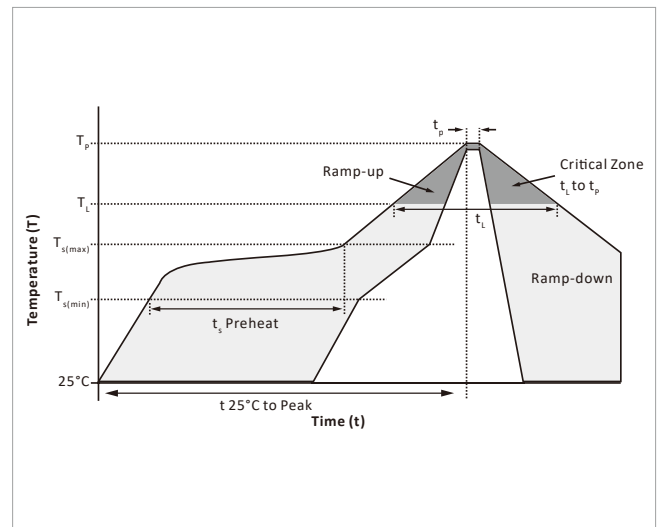
ELECTRICAL CHARACTERISTICS ($T_{amb} = 25^{\circ}\text{C}$)

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

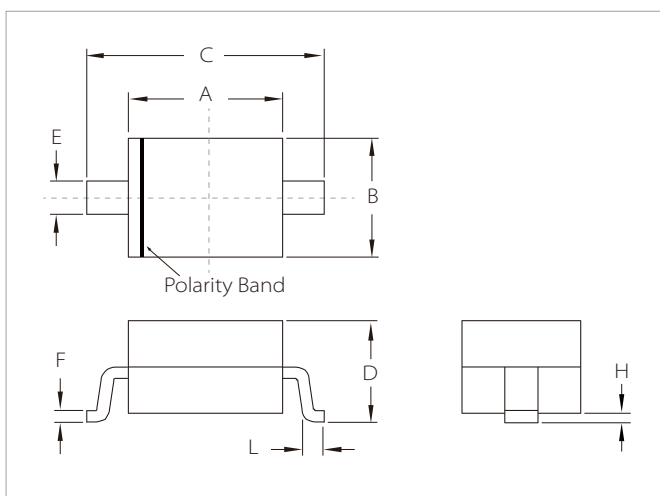
CHARACTERISTIC CURVES
Fig.1 Forward Characteristics

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_p)	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

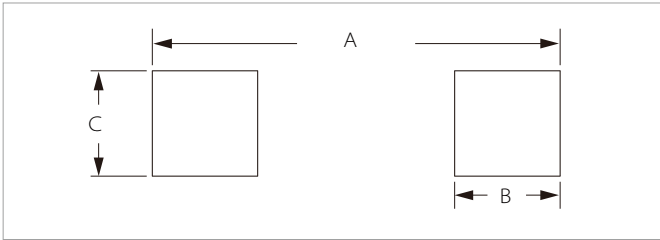


SOD-323 PACKAGE INFORMATION



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	2.39	2.70	0.094	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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