

SOD-323 Surge Schottky Barrier Diode

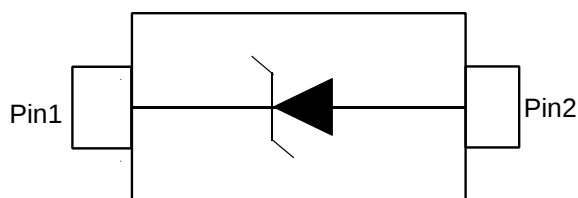
Description

General application Surge Schottky Barrier Diode, encapsulated in a SOD-323 small Surface-Mounted Device (SMD) plastic package.

Features

- Average forward current: $I_O : 2A$
- Reverse voltage: $V_R \geq 40 V$
- Low forward voltage: $V_F \leq 0.55 V @1A$
- Low forward voltage: $V_F \leq 0.67 V @2A$
- Low reverse current: $I_R \leq 30\mu A @40V$
- Low V_F Clamping Voltage $V_{FC} < 6V @100A$
- High reliability

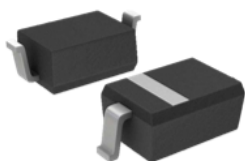
Schematic and Pin Configuration



SOD-323 (Top View)

Circuit Schematic

Package



SOD-323

Mechanical Characteristics

- SOD-323 Small Outline Plastic Package
- Level 1 moisture sensitivity per J-STD-020
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound
- We declare that the material of product compliance with RoHS requirements and Halogen Free

Applications

- Low voltage rectification
- V_{BUS} surge protection
- High efficiency DC-to-DC conversion
- Switch Mode Power Supply(SMPS)
- Reverse polarity protection
- Low power consumption application

Marking Information



SN = Device Marking Code

Bar denotes cathode

Ordering Information

Part Number	Shipping	Reel Size
B5819WT	3000/Tape &Reel	7 inch

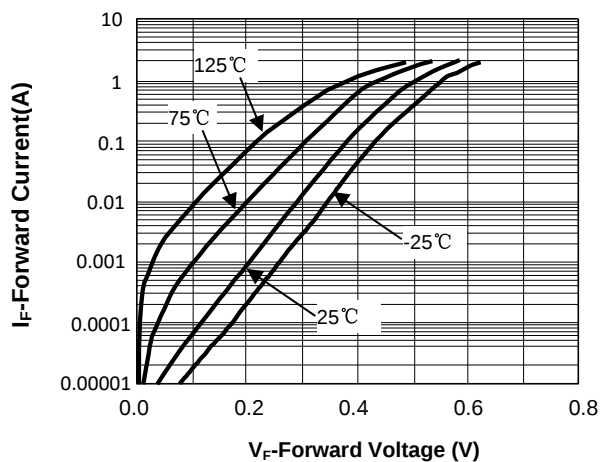
Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V_{RM}	40	V
Maximum DC blocking voltage	V_R	40	V
Average rectified forward current	I_O	2	A
Peak forward surge current 8.3 ms single half sine-wave	I_{FSM}	30	A
Typical thermal resistance	$R_{\theta JA}$	400	$^{\circ}\text{C}/\text{W}$
Power Dissipation	P_D	480	mW
Operating junction temperature	T_J	125	$^{\circ}\text{C}$
Storage temperature	T_{STG}	-50 ~ +150	$^{\circ}\text{C}$

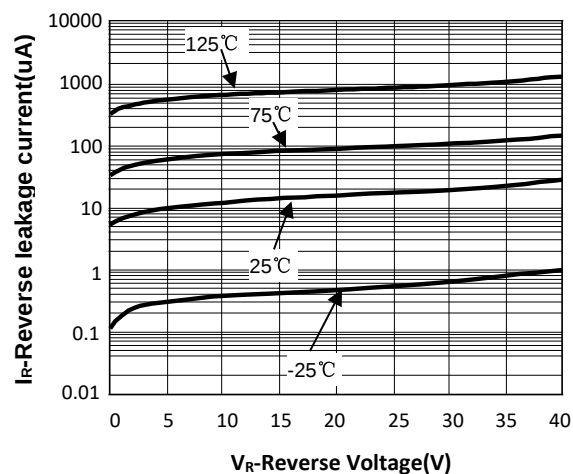
Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test conditions
Reverse voltage	V_{BR}	40			V	$I_R = 1\text{mA}$
Forward voltage	V_F		0.45	0.48	V	$I_F = 0.5\text{A}$
Forward voltage	V_F		0.50	0.55	V	$I_F = 1\text{A}$
Forward voltage	V_F		0.58	0.67	V	$I_F = 2\text{A}$
Maximum reverse current	I_R			30	μA	$V_R = 40\text{V}$
V_F Clamping Voltage	V_{FC}			3	V	$I_{PP} = 30\text{A}$ (8/20 μs pulse)
V_F Clamping Voltage	V_{FC}			6	V	$I_{PP} = 100\text{A}$ (8/20 μs pulse)
Type junction capacitance	C_J		175		pF	$V_R=0\text{V}, f = 1\text{MHz}$

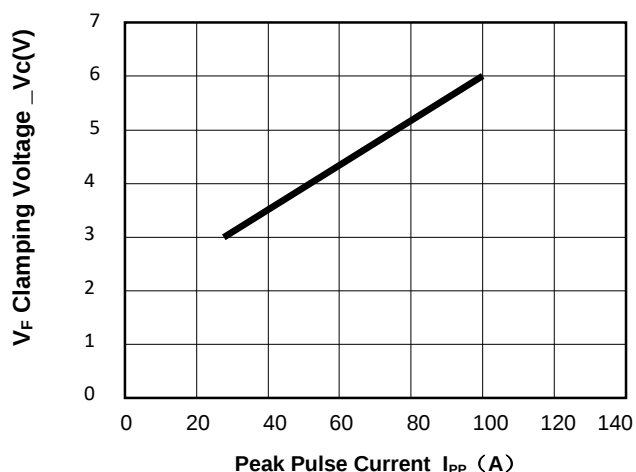
Typical Performance Characteristics($T_A=25^\circ\text{C}$ unless otherwise specified)



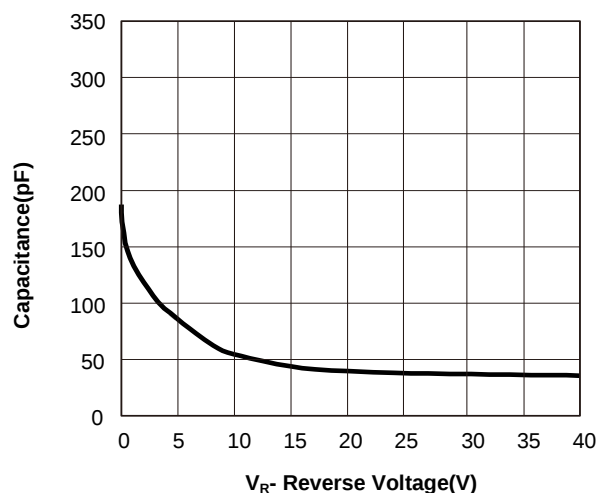
Forward voltage vs. Forward current



Reverse current vs. Reverse voltage

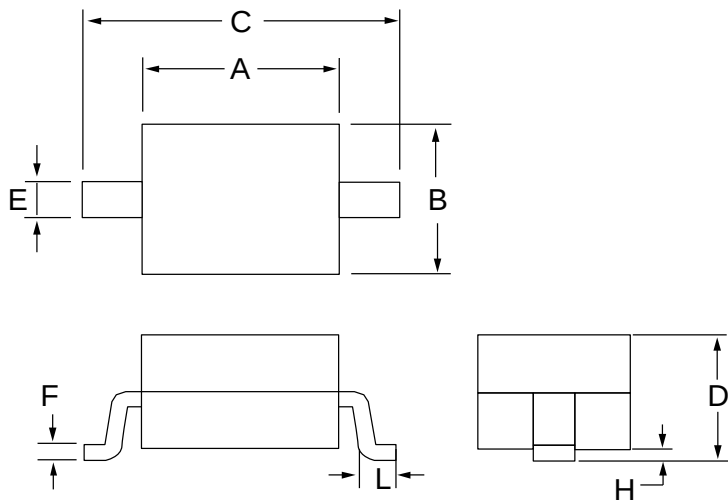


V_F Clamping Voltage vs. Peak Pulse Current



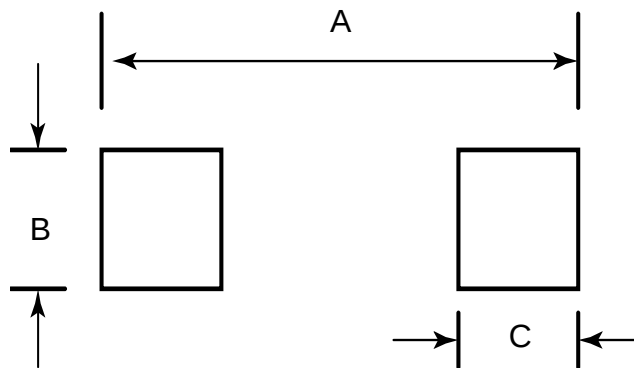
Reverse Voltage vs. Capacitance

SOD-323 Package Outline Drawing



SYM	DIMENSIONS				
	MILLIMETERS			INCHES	
	MIN	NOM	MAX	MIN	MAX
A	1.50	1.65	1.80	0.060	0.071
B	1.20	1.30	1.40	0.045	0.054
C	2.30	2.50	2.70	0.090	0.107
D	-		1.10	-	0.043
E	0.30		0.40	0.012	0.016
F	0.10		0.25	0.004	0.010
L	0.20		0.40	0.008	0.016
H	-		0.10	-	0.004

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
A	3.15	0.120
B	0.80	0.031
C	0.80	0.031

Reel Dimensions



User Direction of Feed

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