

SOD-323 Surge Schottky Barrier Diode

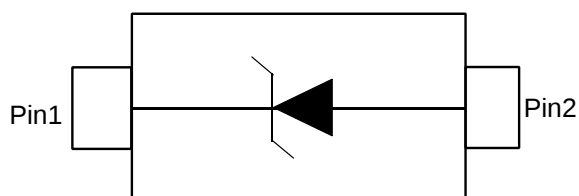
Description

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

Features

- Average forward current: $I_{F(AV)} : 1A$
- Reverse voltage: $V_R \geq 40 V$
- Low forward voltage: $V_F \leq 550 mV @1A$
- Low reverse current: $I_R \leq 30uA@40V$
- Low V_F Clamping Voltage $V_{FC} < 6V@100A$
- High reliability

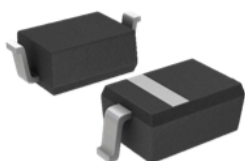
Schematic and Pin Configuration



SOD-323 (Top View)

Circuit Schematic

Package



SOD-323(Bottom View)

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
B5819WH	3000/Tape & Reel	7 inch

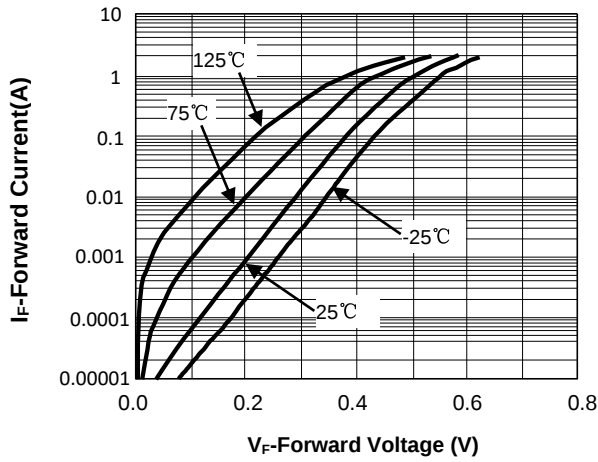
Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V _{RM}	40	V
Maximum DC blocking voltage	V _R	40	V
Maximum average forward rectified current	I _{FM}	1	A
Peak forward surge current 8.3 ms single half sine-wave	I _{FSM}	30	A
Typical thermal resistance	R _{θJA}	400	°C/W
Power Dissipation	P _D	480	mW
Operating junction temperature	T _J	125	°C
Storage temperature	T _{STG}	-50 ~ +150	°C

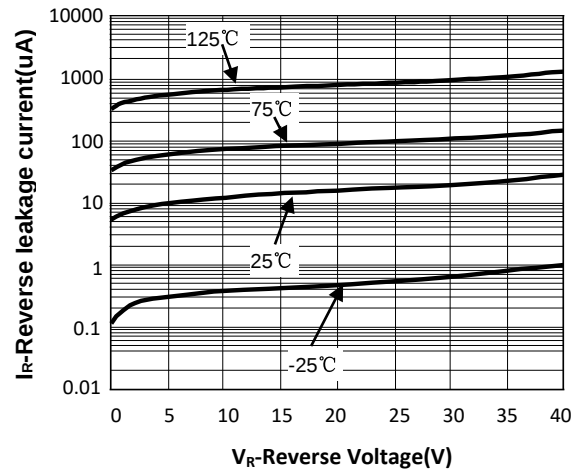
Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test conditions
Reverse voltage	V _{BR}	40			V	I _R = 1mA
Forward voltage	V _F		0.45	0.48	V	I _F = 0.5A
Forward voltage	V _F		0.50	0.55	V	I _F = 1A
Maximum reverse current	I _R			30	uA	V _R = 40V
V _F Clamping Voltage	V _{FC}			3	V	I _{PP} = 30A (8/20μs pulse)
V _F Clamping Voltage	V _{FC}			6	V	I _{PP} = 100A (8/20μs pulse)
Type junction capacitance	C _J		175		pF	V _R =0V, f = 1MHz

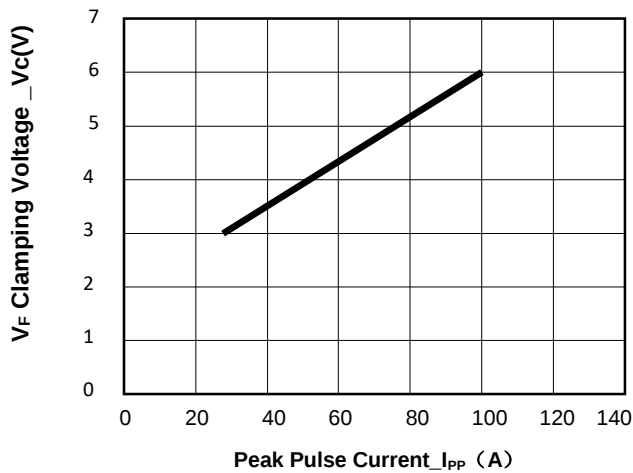
Typical Performance Characteristics($T_A=25^{\circ}\text{C}$ unless otherwise specified)



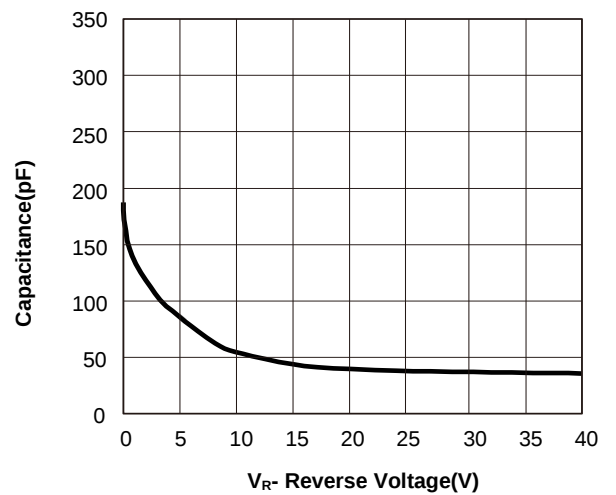
Forward voltage vs. Forward current



Reverse current vs. Reverse voltage

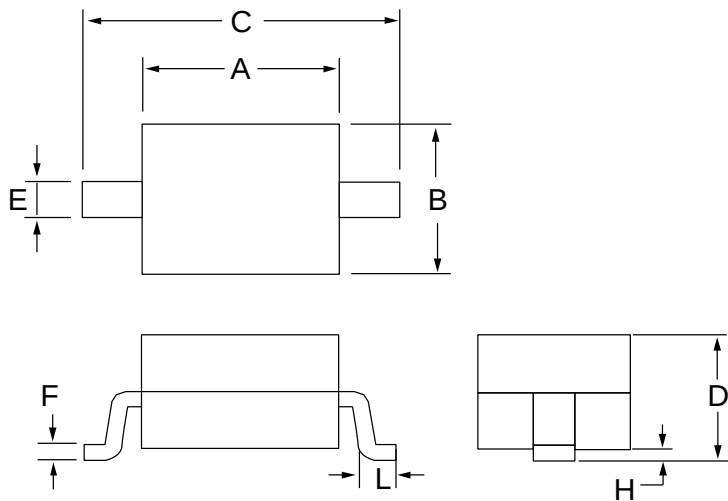


V_F Clamping Voltage vs. Peak Pulse Current



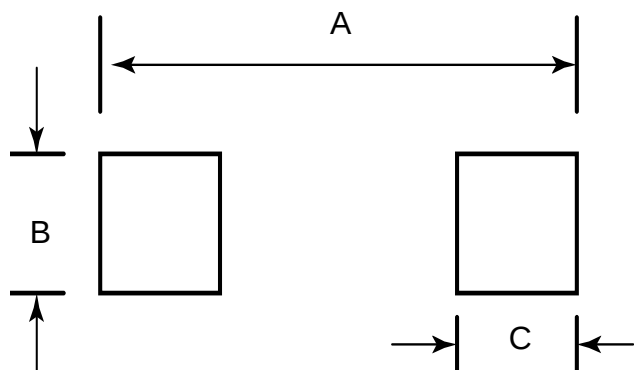
Reverse Voltage vs. Capacitance

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

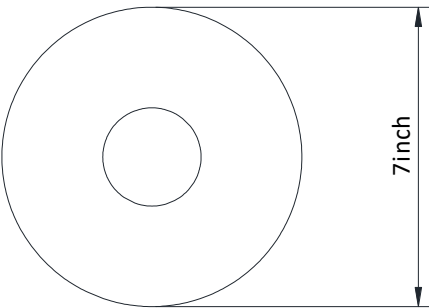
Suggested Land Pattern



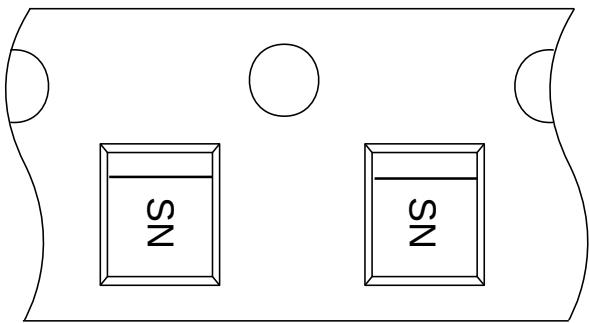
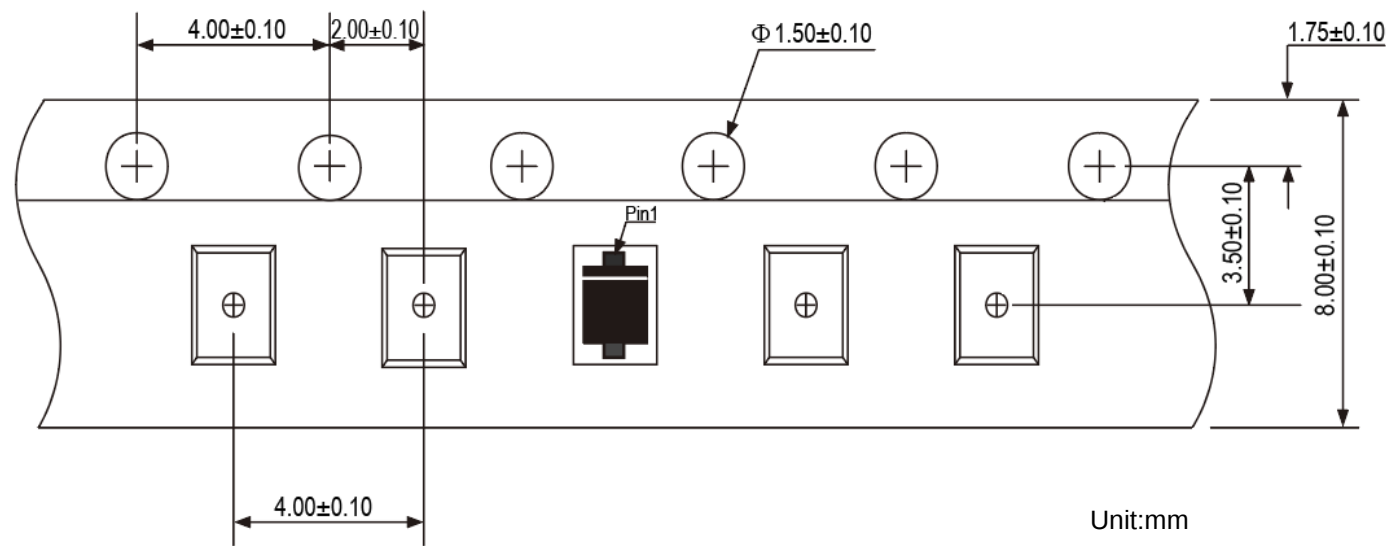
SYM	DIMENSIONS	
	MILLIMETERS	INCHES
A	3.15	0.120
B	0.80	0.031
C	0.80	0.031

TAPE AND REEL INFORMATION

Reel Dimensions



Tape Dimensions



User Direction of Feed

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