

Small Signal Product

## 1A, 20V - 40V Schottky Diode

### FEATURES

- Low Forward Voltage Drop
- Surface mount device type
- Moisture sensitivity level (MSL): 3
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21



### MECHANICAL DATA

- Case: Bend lead SOD-323 package
- High temperature soldering guaranteed: 260°C/10s
- Weight: 4.3mg (approximately)

**SOD-323**

### APPLICATION

- General purpose rectification application

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted)					
PARAMETER	SYMBOL	VALUE			UNIT
		B5817WS	B5818WS	B5819WS	
Non-Peak Repetitive Reverse Voltage	V <sub>RM</sub>	20	30	40	V
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	20	30	40	V
Working Peak Reverse Voltage	V <sub>RWM</sub>	20	30	40	V
DC Blocking Voltage	V <sub>R</sub>	20	30	40	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	14	21	28	V
Average Rectified Output Current	I <sub>O</sub>	1			A
Peak Forward Surge Current @t=8.3ms	I <sub>FSM</sub>	9			A
Repetitive Peak Forward Current	I <sub>FRM</sub>	1.5			A
Power Dissipation	P <sub>D</sub>	250			mW
Thermal Resistance form Junction to Ambient	R <sub>THJA</sub>	400			°C/W
Junction Temperature	T <sub>J</sub>	125			°C
Storage Temperature Range	T <sub>STG</sub>	- 55 to + 125			°C

PARAMETER	TEST CONDITION	SYMBOL	MIN	MAX	UNIT	
Reverse Breakdown Voltage	at I <sub>R</sub> = 1 mA	V <sub>(BR)</sub>	B5817WS	20	-	V
			B5818WS	30	-	
			B5819WS	40	-	
Reverse Voltage Leakage Current	at V <sub>R</sub> = 20 V	I <sub>R</sub>	B5817WS	-	1	mA
	at V <sub>R</sub> = 30 V		B5818WS	-		
	at V <sub>R</sub> = 40 V		B5819WS	-		
Forward Voltage	at I <sub>F</sub> = 1A	V <sub>F</sub>	B5817WS	-	0.45	V
			B5817WS	-	0.75	
	at I <sub>F</sub> = 3A		B5818WS	-	0.55	V
			B5818WS	-	0.875	
	at I <sub>F</sub> = 1A		B5819WS	-	0.6	V
			B5819WS	-	0.9	
Diode Capacitance	V <sub>R</sub> =4V, f=1.0MHz	C <sub>D</sub>	-	120	pF	

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ORDERING INFORMATION				
PART NO.	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
B581xWS (Note)	RI	G	SOD-323	3K / 7" Reel

Note : "x" is Device Code from "7" - "9".

EXAMPLE				
EXAMPLE PART NO.	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
B5817WS RQG	B5817WS	RQ	G	Green compound

**RATINGS AND CHARACTERISTICS CURVES**

( $T_A=25^\circ\text{C}$  unless otherwise noted)

Fig. 1 Typical Forward Characteristics

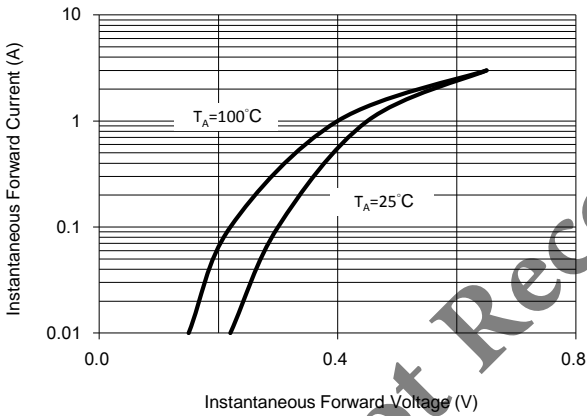


Fig. 2 Typical Reverse Characteristics

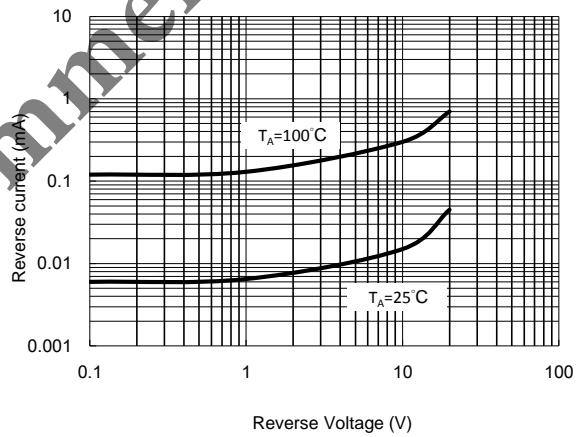


Fig. 3 Typical Capacitance vs. VR

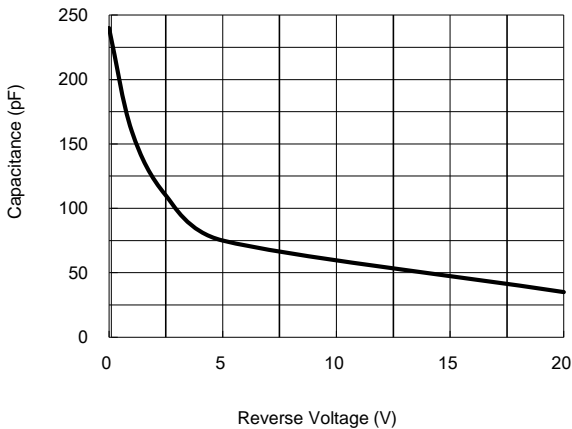
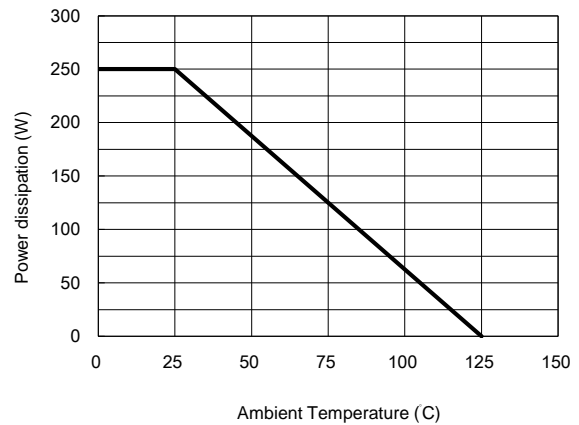


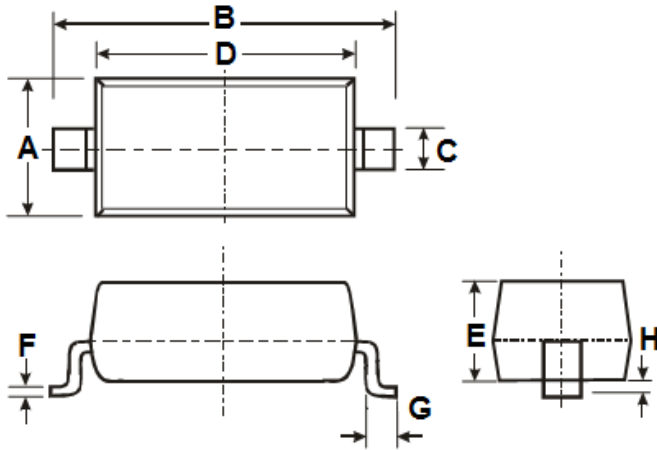
Fig. 4 Power Derating Curve



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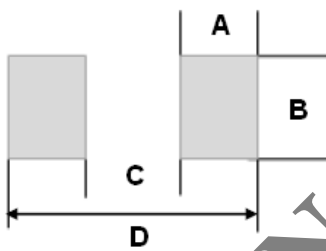
**PACKAGE OUTLINE DIMENSIONS**

SOD-323



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.15	1.40	0.045	0.055
B	2.30	2.70	0.091	0.106
C	0.25	0.45	0.010	0.018
D	1.60	1.80	0.063	0.071
E	0.80	1.00	0.031	0.039
F	0.05	0.17	0.002	0.007
G	0.475 REF		0.19 REF	
H	-	0.10	-	0.004

**SUGGESTED PAD LAYOUT**



DIM.	Unit (mm)		Unit (inch)	
	Typ.		Typ.	
A	0.63		0.025	
B	0.83		0.033	
C	1.60		0.063	
D	2.86		0.113	

*Not Recommended*

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**Not Recommended**

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