

## 200mW, 0.47V Schottky Barrier Diode

### FEATURES

- Designed for mounting on small surface
- Low Capacitance
- Low forward voltage drop
- Compliant to RoHS directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

### APPLICATIONS

- Adapters
- For switching power supply
- Low stored charge
- Inverter

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_{F(AV)}$	500	mA
$V_{RRM}$	30	V
$I_{FSM}$	5	A
$V_F$ at $I_F=500mA$	0.47	V
$T_J$ Max.	125	°C
Package	SOD-323F	
Configuration	Single dice	

### MECHANICAL DATA

- Case: SOD-323F
- Molding compound meets UL 94 V-0 flammability rating
- Moisture sensitivity level: level 1, per J-STD-020
- Packing code with suffix "G" means green compound (halogen-free)
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Polarity: Indicated by cathode band
- Weight: 4.85 mg (approximately)



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

PARAMETER	SYMBOL	B0530WS	UNIT
Marking code on the device		B3	
Repetitive peak reverse voltage	$V_{RRM}$	30	V
Forward current	$I_{F(AV)}$	200	mA
Non-repetitive peak forward surge current @ $t = 8.3ms$	$I_{FSM}$	5	A
Junction temperature range	$T_J$	-65 to +125	°C
Storage temperature range	$T_{STG}$	-65 to +125	°C

### THERMAL PERFORMANCE

PARAMETER	SYMBOL	LIMIT	UNIT
Junction-to-ambient thermal resistance	$R_{\theta JA}$	426	°C/W

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)					
PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode <sup>(1)</sup>	$I_F = 100\text{mA}, T_J = 25^\circ\text{C}$	$V_F$	-	0.36	V
	$I_F = 500\text{mA}, T_J = 25^\circ\text{C}$			0.47	
Reverse current @ rated $V_R$ per diode <sup>(2)</sup>	$V_R = 15\text{V}, T_J = 25^\circ\text{C}$	$I_R$	-	80	$\mu\text{A}$
	$V_R = 20\text{V}, T_J = 25^\circ\text{C}$			100	
	$V_R = 30\text{V}, T_J = 25^\circ\text{C}$			500	
Junction capacitance	1 MHz, $V_R = 0\text{V}$	$C_J$	-	160	pF

**Notes:**

1. Pulse test with  $PW = 0.3\text{ ms}$
2. Pulse test with  $PW = 30\text{ ms}$

<b>ORDERING INFORMATION</b>				
PART NO.	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
B0530WS (Note 1)	RR	G	SOD-323F	3K / 7" Reel
	R9			10K / 13" Reel

**Notes:**

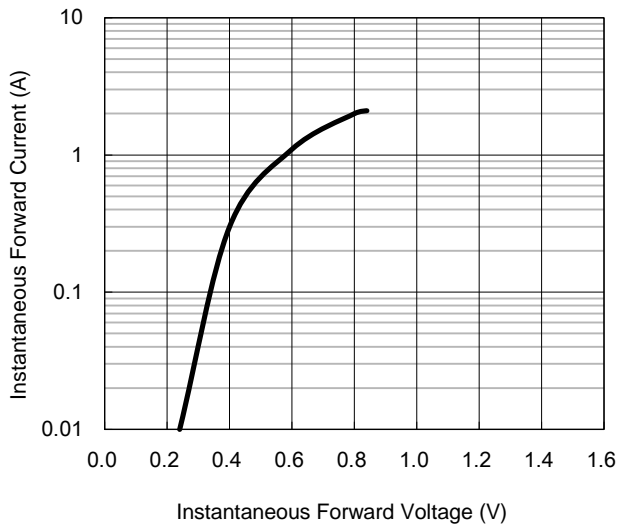
1. Whole series with green compound

<b>EXAMPLE</b>				
EXAMPLE P/N	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
B0530WS RRG	B0530WS	RR	G	Green compound

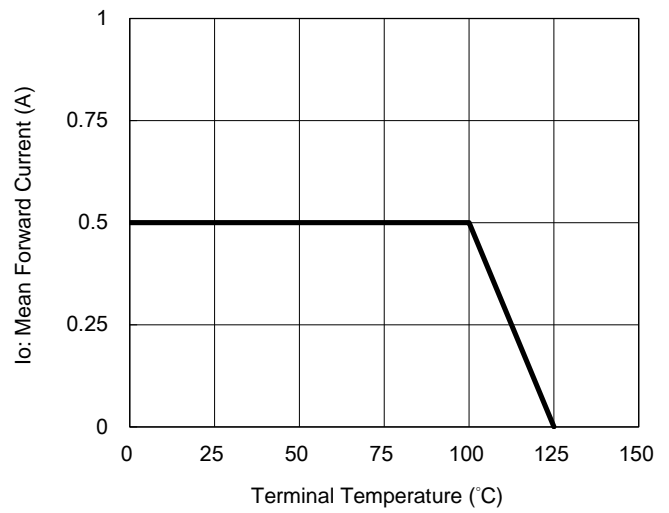
**CHARACTERISTICS CURVES**

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

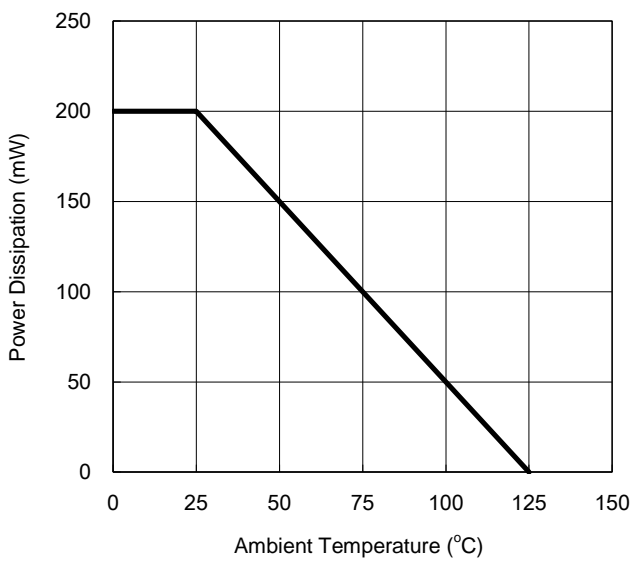
**Fig. 1 Typical Forward Characteristics**



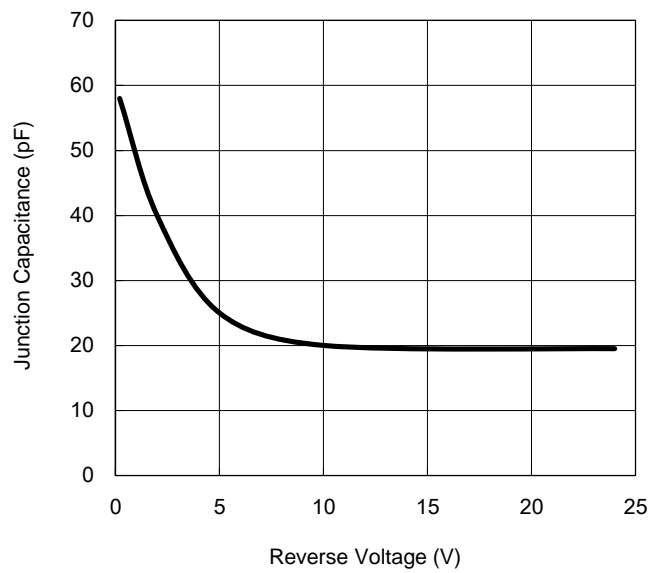
**Fig. 2 Forward Current Derating Curve**



**Fig. 3 Admissible Power Dissipation Curve**



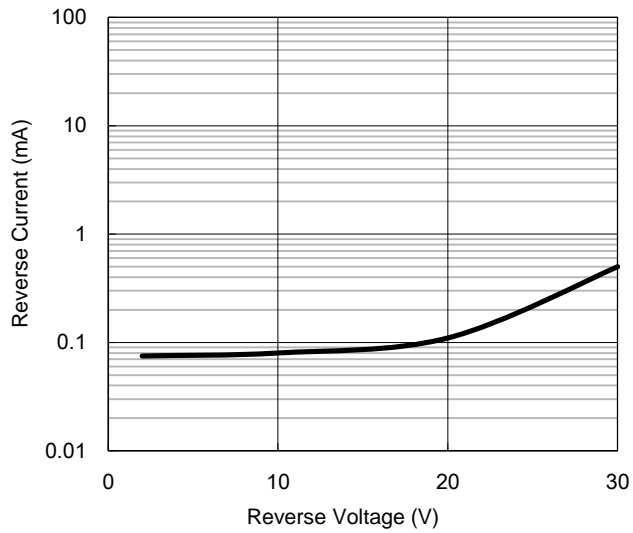
**Fig. 4 Typical Junction Capacitance**



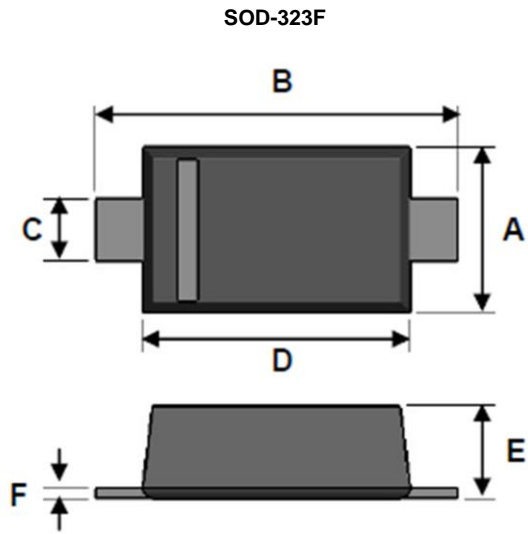
### CHARACTERISTICS CURVES

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

**Fig. 5 Typical Reverse Characteristics**



**PACKAGE OUTLINE DIMENSION**



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	1.15	1.35	0.045	0.053
B	2.30	2.80	0.091	0.110
C	0.25	0.40	0.010	0.016
D	1.60	1.80	0.063	0.071
E	0.80	1.10	0.031	0.043
F	0.05	0.25	0.002	0.010

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