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)

Pb-Free RoHS COMPLIANT HALOGEN FREE

ABSOLUTE MAXIMUM RATINGS (T_A = 25°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

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)					
PARAMETER	**CONDITIONS**	**SYMBOL**	**TYP**	**MAX**	**UNIT**
Forward voltage per diode (1)	I_F = 100mA, T_J = 25°C	V_F	-	0.36	V
	I_F = 500mA, T_J = 25°C			0.47	
Reverse current @ rated V_R per diode (2)	V_R=15V T_J = 25°C	I_R	-	80	μA
	V_R=20V T_J = 25°C		-	100	
	V_R=30V T_J = 25°C		-	500	
Junction capacitance	1 MHz, V_R=0V	C_J	-	160	pF

Notes:

1. Pulse test with PW=0.3 ms
2. Pulse test with PW=30 ms

ORDERING INFORMATION				
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

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

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig. 1 Typical Forward Characteristics

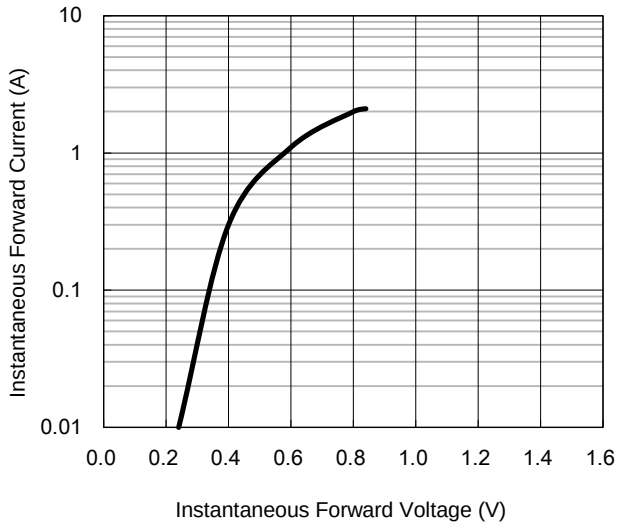


Fig. 2 Forward Current Derating Curve

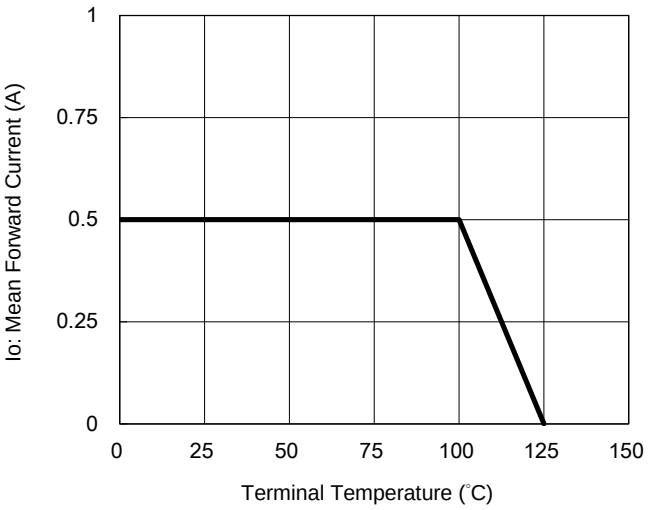


Fig. 3 Admissible Power Dissipation Curve

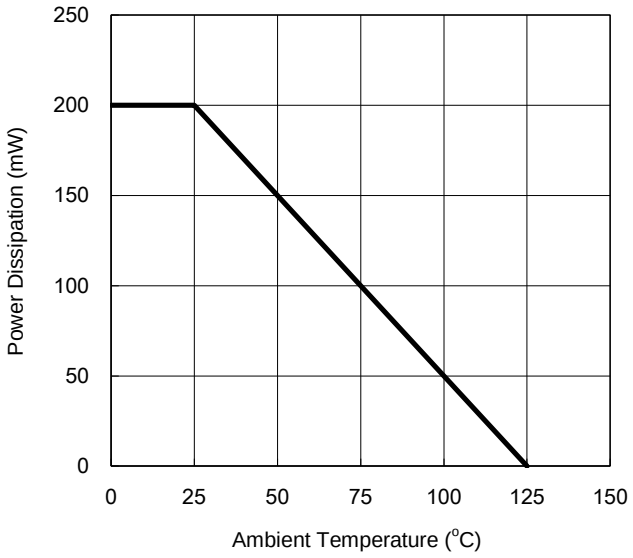
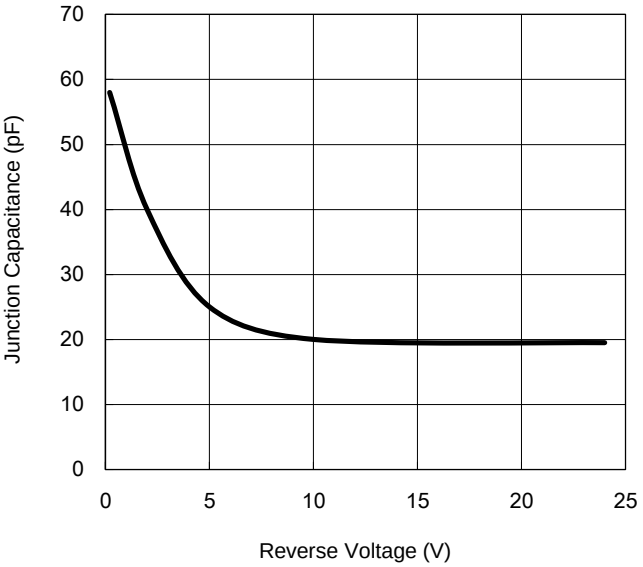


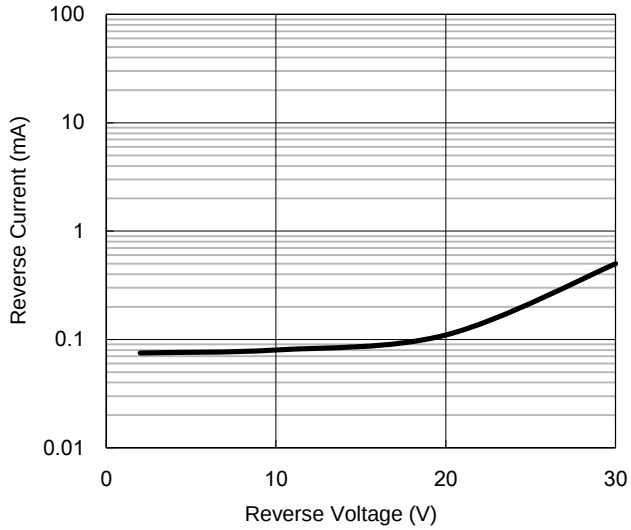
Fig. 4 Typical Junction Capacitance



CHARACTERISTICS CURVES

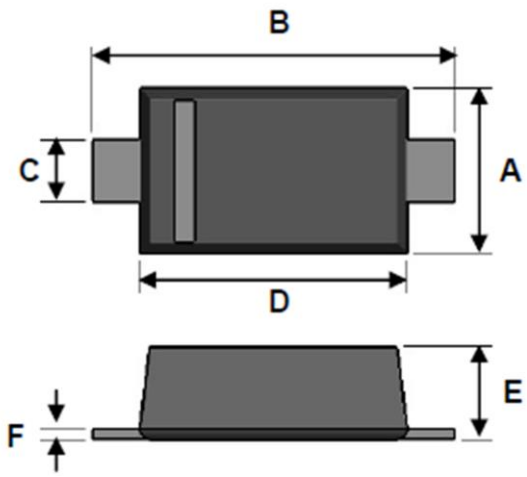
(T_A = 25°C unless otherwise noted)

Fig. 5 Typical Reverse Characteristics



PACKAGE OUTLINE DIMENSION

SOD-323F



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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