

## 200mA, 30V Low VF SMD Schottky Barrier Diode

### FEATURES

- Low capacitance
- Low forward voltage drop
- Moisture sensitivity level: level 1, per J-STD-020
- 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

### MECHANICAL DATA

- Case: SOD-523F
- Molding compound meets UL 94 V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Polarity: Indicated by cathode band
- Weight: 1.68 ± 0.5 mg

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_F$	200	mA
$V_{RRM}$	30	V
$I_{FSM}$	1	A
$V_F$ at $I_F=200mA$	0.6	V
$T_J$ Max.	125	°C
Package	SOD-523F	
Configuration	Single die	



ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	RB520S-30	UNIT
Marking code on the device		B	
Power dissipation	$P_D$	200	mW
Repetitive peak reverse voltage	$V_{RRM}$	30	V
Forward current	$I_F$	200	mA
Non-repetitive peak forward surge current @ $t = 8.3ms$	$I_{FSM}$	1	A
Junction temperature range	$T_J$	-55 to +125	°C
Storage temperature range	$T_{STG}$	-55 to +125	°C

THERMAL PERFORMANCE			
PARAMETER	SYMBOL	TYP	UNIT
Junction-to-ambient thermal resistance	$R_{\theta JA}$	500	°C/W

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)					
<b>PARAMETER</b>	<b>CONDITIONS</b>	<b>SYMBOL</b>	<b>MIN</b>	<b>MAX</b>	<b>UNIT</b>
Forward voltage per diode <sup>(1)</sup>	$I_F = 200\text{mA}, T_J = 25^\circ\text{C}$	$V_F$	-	0.6	V
Reverse breakdown voltage	$I_R = 500 \mu\text{A}$	$V_{(BR)}$	30	-	V
Reverse current <sup>(2)</sup>	$V_R = 10\text{V}, T_J = 25^\circ\text{C}$	$I_R$	-	1	$\mu\text{A}$

**Notes:**

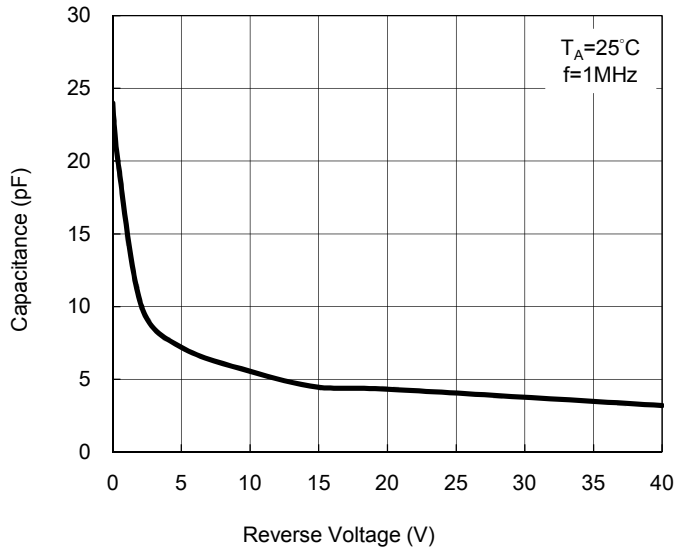
1. Pulse test with  $PW = 0.3 \text{ ms}$
2. Pulse test with  $PW = 30 \text{ ms}$

<b>ORDERING INFORMATION</b>		
<b>PART NO.</b>	<b>PACKAGE</b>	<b>PACKING</b>
RB520S-30 RKG	SOD-523F	3K / 7" Reel
RB520S-30 RK	SOD-523F	3K / 7" Reel
RB520S-30 RSG	SOD-523F	8K / 7" Reel
RB520S-30 RS	SOD-523F	8K / 7" Reel

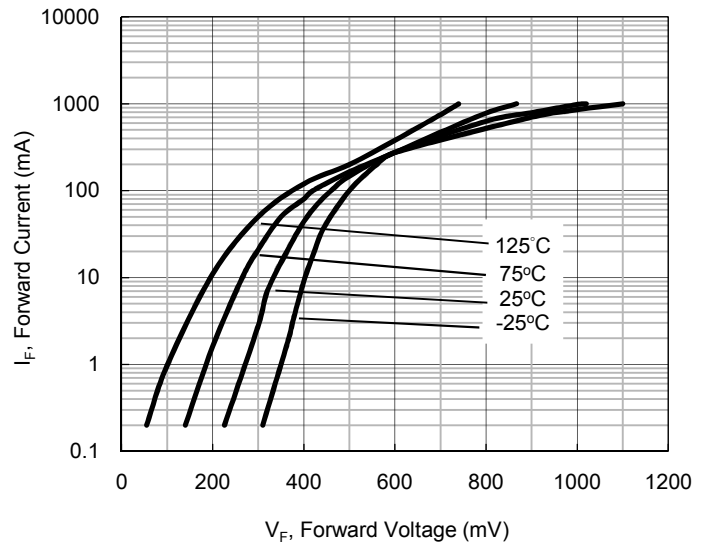
**CHARACTERISTICS CURVES**

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

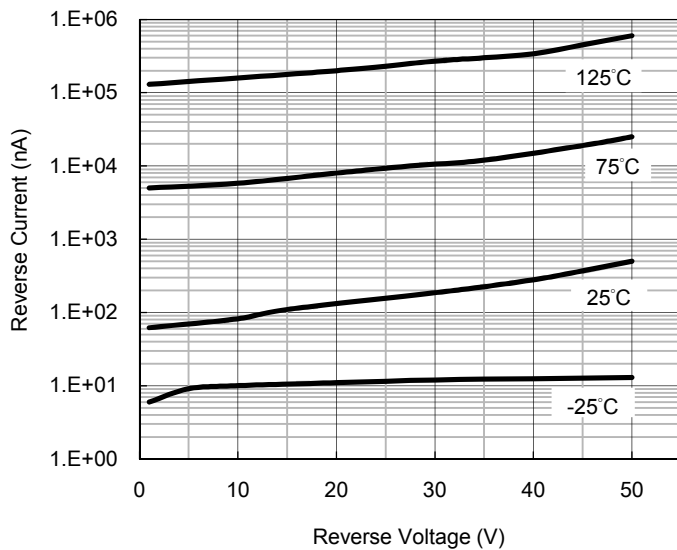
**Fig. 1 Total Capacitance**



**Fig. 2 Forward Voltage VS. Ambient**

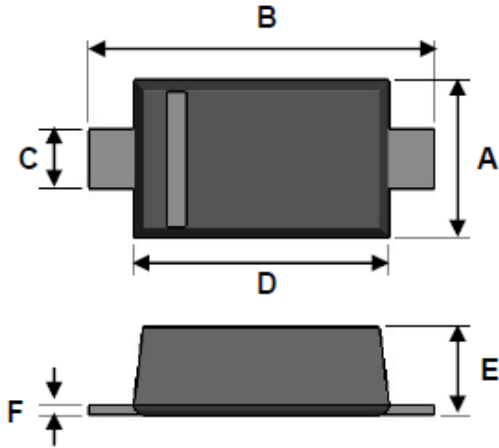


**Fig. 3 Reverse Current VS. Reverse Voltage**



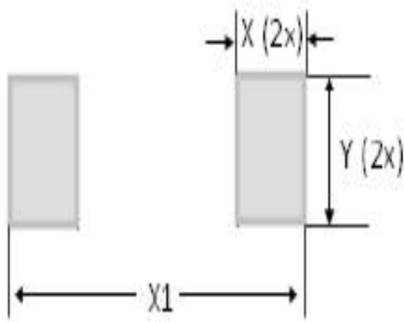
**PACKAGE OUTLINE DIMENSION**

SOD-523F



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	0.70	0.90	0.028	0.035
B	1.50	1.70	0.059	0.067
C	0.25	0.40	0.010	0.016
D	1.10	1.30	0.043	0.051
E	0.50	0.77	0.020	0.030
F	0.07	0.20	0.003	0.008

**SUGGEST PAD LAYOUT**



DIM.	Unit (mm)	Unit (inch)
	Typ.	Typ.
X	0.60	0.024
X1	2.30	0.091
Y	0.80	0.031

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