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## 200mW, SMD High Speed Switching Diode

### FEATURES

- Low power loss, high efficiency
- Ideal for automated placement
- High surge current capability
- Compliance to RoHS directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

### APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- Lighting application
- On-board DC/DC converter

### MECHANICAL DATA

- Case: SOD-523F
- 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: 1.68 ± 0.5mg (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_{F(AV)}$	200	mA
$V_{RRM}$	100	V
$I_{FSM}$	500	mA
$V_F$ at $I_F=100mA$	1.2	V
$T_J$ Max.	150	°C
Package	SOD-523F	
Configuration	Single dice	



ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	1SS400	UNIT
Marking code on the device		A	
Power dissipation	$P_D$	200	mW
Repetitive peak reverse voltage	$V_{RRM}$	100	V
Reverse voltage, total rms value	$V_{R(RMS)}$	100	V
Forward current	$I_{F(AV)}$	200	mA
Non-repetitive peak forward surge current	$I_{FSM}$	500	mA
Junction temperature range	$T_J$	-55 to +150	°C
Storage temperature range	$T_{STG}$	-55 to +150	°C

<b>THERMAL PERFORMANCE</b>			
<b>PARAMETER</b>	<b>SYMBOL</b>	<b>LIMIT</b>	<b>UNIT</b>
Junction-to-ambient thermal resistance	$R_{\theta JA}$	625	°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>	$I_F = 100\text{mA}$ , $T_J = 25^\circ\text{C}$	$V_F$	-	1.2	V
Breakdown voltage	$I_R = 100\mu\text{A}$ , $T_J = 25^\circ\text{C}$	$V_{(BR)}$	100	-	V
Reverse current @ rated $V_R$ per diode <sup>(2)</sup>	$V_R = 80\text{V}$ $T_J = 25^\circ\text{C}$	$I_R$	-	0.1	$\mu\text{A}$
Junction capacitance	$V_R = 0.5\text{V}$ , $f = 1.0\text{MHz}$	$C_J$	-	4	pF
Reverse recovery time	$I_F = 10\text{mA}$ , $V_R = 6\text{V}$ , $R_L = 100\ \Omega$	$t_{rr}$	-	4	ns

**Notes:**

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

<b>ORDERING INFORMATION</b>				
<b>PART NO.</b>	<b>PACKING CODE</b>	<b>PACKING CODE SUFFIX(*)</b>	<b>PACKAGE</b>	<b>PACKING</b>
1SS400	RK	G	SOD-523F	3K / 7" Reel
	RJ			8K / 7" Reel

**Notes:**

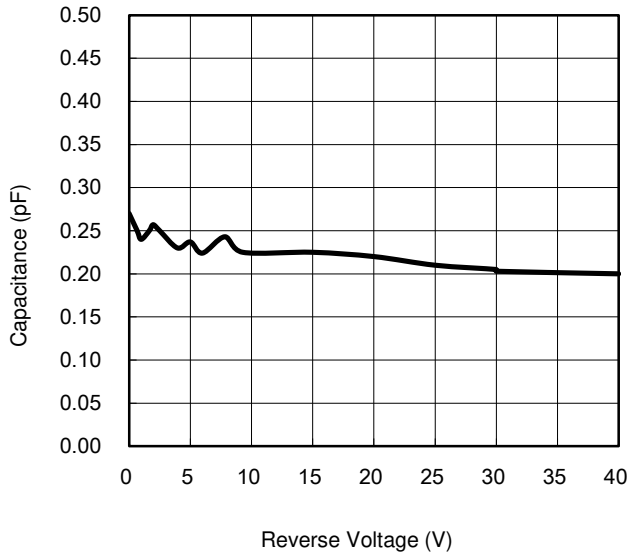
\*: optional available

<b>EXAMPLE</b>				
<b>EXAMPLE P/N</b>	<b>PART NO.</b>	<b>PACKING CODE</b>	<b>PACKING CODE SUFFIX</b>	<b>DESCRIPTION</b>
1SS400 RKG	1SS400	RK	G	Green compound

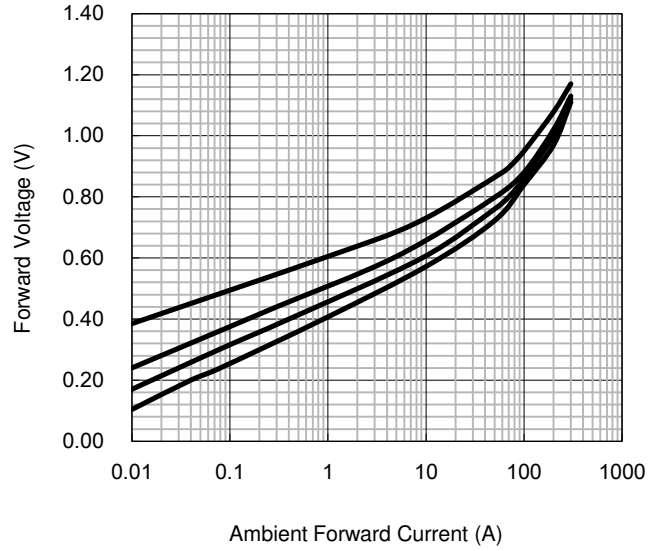
**CHARACTERISTICS CURVES**

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

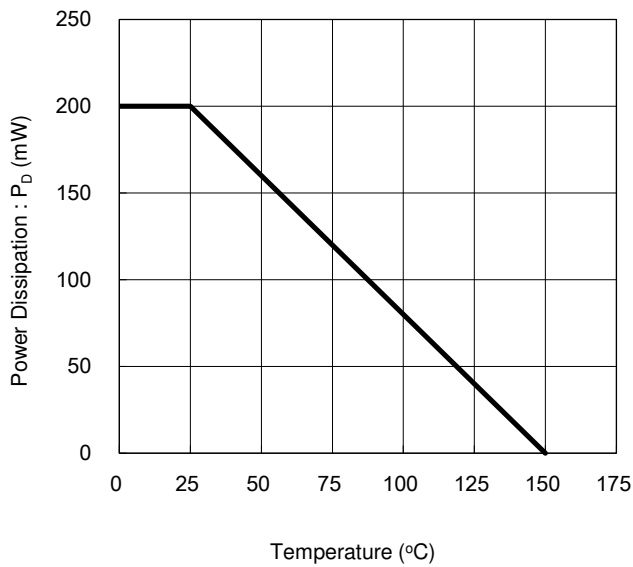
**Fig. 1 Total Capacitance**



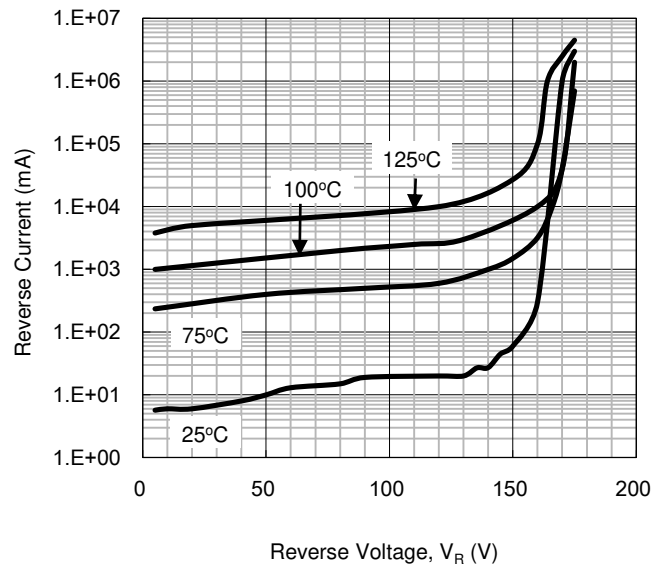
**Fig. 2 Forward Voltage VS. Ambient Forward**



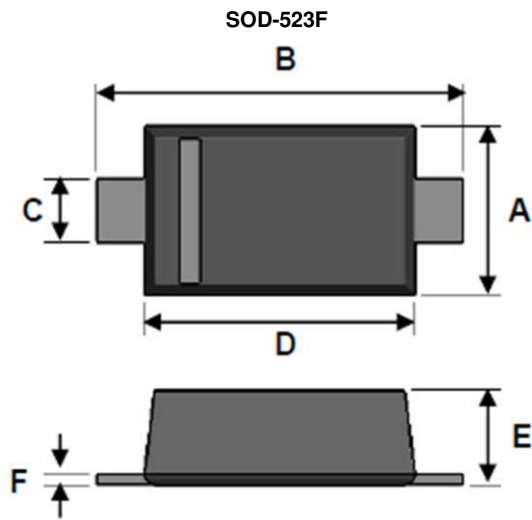
**Fig. 3 Power Derating Curve**



**Fig. 4 Reverse Current VS. Reverse Voltage**

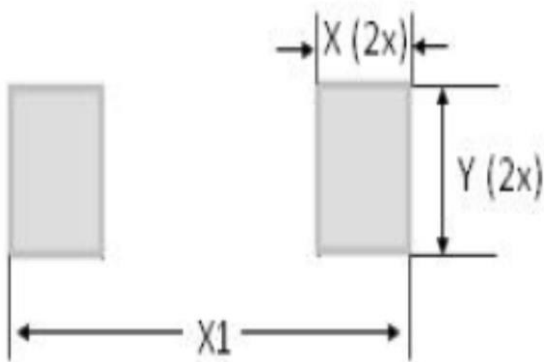


**PACKAGE OUTLINE DIMENSION**



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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