

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

THERMAL PERFORMANCE			
PARAMETER	SYMBOL	LIMIT	UNIT
Junction-to-ambient thermal resistance	$R_{\theta JA}$	625	°C/W

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)					
PARAMETER	CONDITIONS	SYMBOL	MIN	MAX	UNIT
Forward voltage per diode ⁽¹⁾	$I_F = 100\text{mA}$, $T_J = 25^\circ\text{C}$	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 ⁽²⁾	$V_R = 80\text{V}$, $T_J = 25^\circ\text{C}$	I_R	-	0.1	μA
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 $PW=0.3\text{ms}$
2. Pulse test with $PW=30\text{ms}$

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

Notes:

*: optional available

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

CHARACTERISTICS CURVES

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

Fig. 1 Total Capacitance

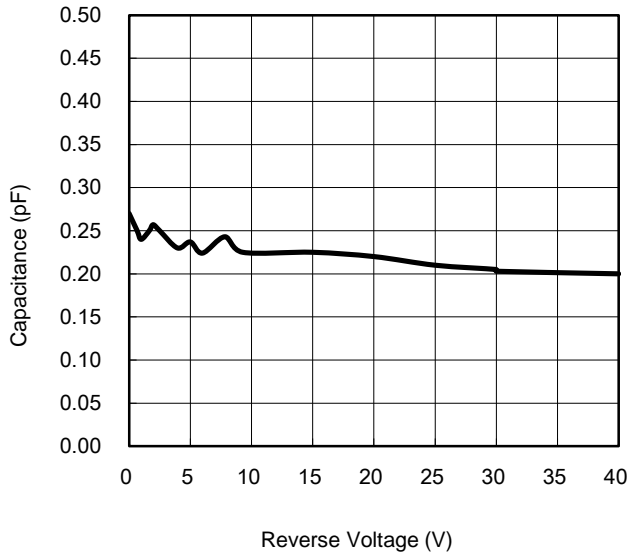


Fig. 2 Forward Voltage VS. Ambient Forward

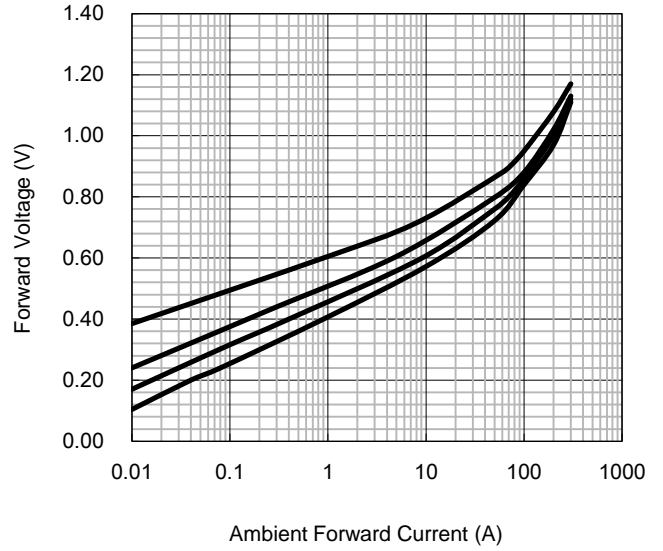


Fig. 3 Power Derating Curve

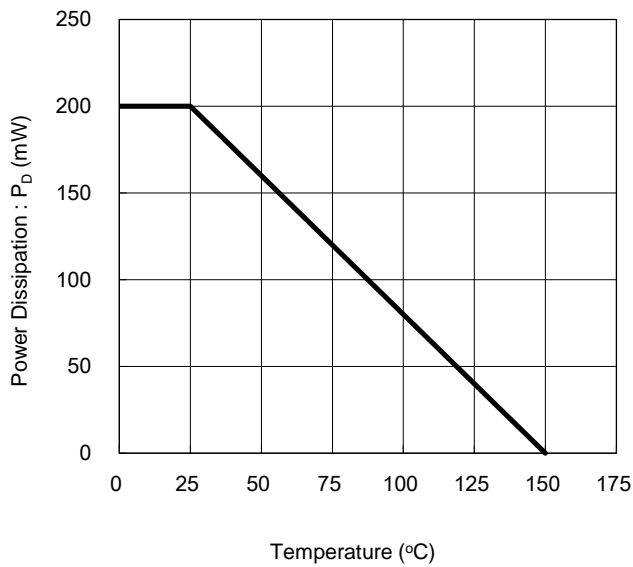
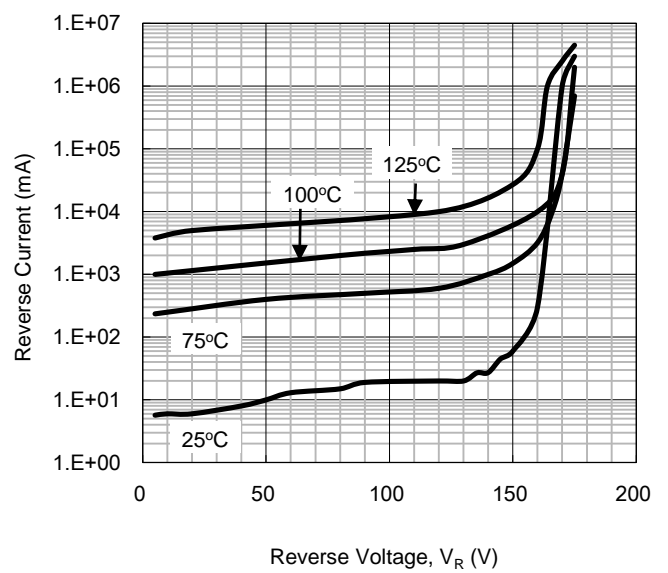
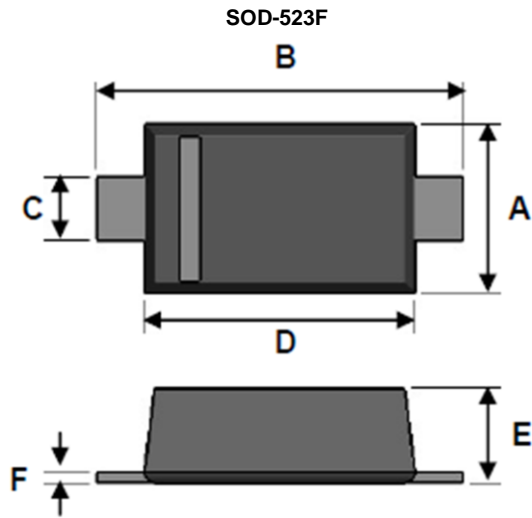


Fig. 4 Reverse Current VS. Reverse Voltage

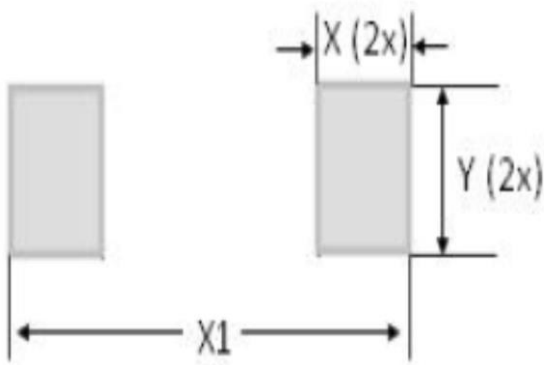


PACKAGE OUTLINE DIMENSION



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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