

## Features

- Fast Switching Speed:  $t_{rr} \leq 4.0\text{ns}$
- Low Leakage Current:  $I_R \leq 25\text{nA}$
- Low Capacitance:  $C_T \leq 4\text{pF}$
- Flat Lead for High Thermal Efficiency
- Small Surface Mount Package
- Lead, Halogen and Antimony Free, RoHS Compliant (Note 1)**
- "Green" Device (Note 2)**
- Qualified to AEC-Q101 Standards for High Reliability**

## Mechanical Data

- Case: SOD323F
- Case Material: Molded Plastic, "Green Molding Compound". UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections: Cathode Band
- Terminals: Finish - Matte Tin annealed over Copper Alloy leadframe. Solderable per MIL-STD-202, Method 208
- Weight: 0.007 grams (approximate)

SOD323F



Top View

## Ordering Information (Note 3)

Part Number	Qualification	Case	Packaging
1N4448WSF-7	Commercial	SOD323F	3000/Tape & Reel
1N4448WSFQ-7	Automotive	SOD323F	3000/Tape & Reel

Notes:

1. No purposefully added lead. Halogen and Antimony Free.
2. Diodes Inc.'s "Green" policy can be found on our website at <http://www.diodes.com>.
3. For packaging details, go to our website at <http://www.diodes.com>.

## Marking Information



TK = Product Type Marking Code

YM = Date Code Marking

Y = Year (ex: Y = 2011)

M = Month (ex: 9 = September)

## Date Code Key

Year	2011	2012	2013	2014	2015	2016	2017	2018				
Code	Y	Z	A	B	C	D	E	F				
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

Maximum Ratings @ $T_A = 25^\circ\text{C}$  unless otherwise specified

Characteristic	Symbol	Value	Unit
Non-Repetitive Peak Reverse Voltage	$V_{RM}$	100	V
Peak Repetitive Reverse Voltage	$V_{RRM}$		
Working Peak Reverse Voltage	$V_{RWM}$	75	V
DC Blocking Voltage	$V_R$		
RMS Reverse Voltage	$V_{R(RMS)}$	53	V
Forward Continuous Current	$I_{FM}$	500	mA
Average Rectified Output Current	$I_O$	250	mA
Non-Repetitive Peak Forward Surge Current @ $t = 1.0\mu\text{s}$	$I_{FSM}$	4	A
Non-Repetitive Peak Forward Surge Current @ $t = 1.0\text{s}$		0.5	

## Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 4)	$P_D$	400	mW
Thermal Resistance Junction to Ambient Air (Note 4)	$R_{\theta JA}$	313	°C/W
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65 to +150	°C

 Electrical Characteristics @ $T_A = 25^\circ\text{C}$  unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 5)	$V_{(BR)R}$	75	—	V	$I_R = 100\mu\text{A}$
Forward Voltage	$V_F$	0.62	0.72	V	$I_F = 5.0\text{mA}$
		—	0.855		$I_F = 10\text{mA}$
		—	1.0		$I_F = 100\text{mA}$
		—	1.25		$I_F = 150\text{mA}$
		—	2.5		$V_R = 75\text{V}$
Leakage Current (Note 5)	$I_R$	—	50	$\mu\text{A}$	$V_R = 75\text{V}, T_J = 150^\circ\text{C}$
		—	30	$\mu\text{A}$	$V_R = 25\text{V}, T_J = 150^\circ\text{C}$
		—	25	nA	$V_R = 20\text{V}$
Total Capacitance	$C_T$	—	4.0	pF	$V_R = 0, f = 1.0\text{MHz}$
Reverse Recovery Time	$t_{rr}$	—	4.0	ns	$I_F = I_R = 10\text{mA},$ $I_{rr} = 0.1 \times I_R, R_L = 100\Omega$

Notes: 4. Part mounted on FR-4 PC board with minimum recommended pad layouts, which can be found on our website at <http://www.diodes.com>.  
 5. Short duration pulse test used to minimize self-heating.

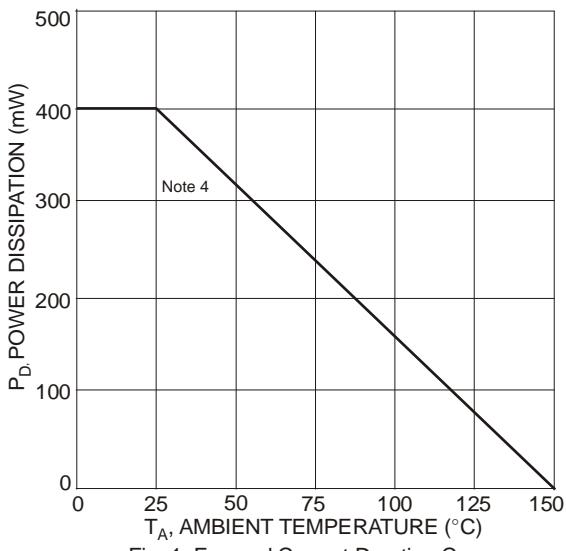


Fig. 1 Forward Current Derating Curve

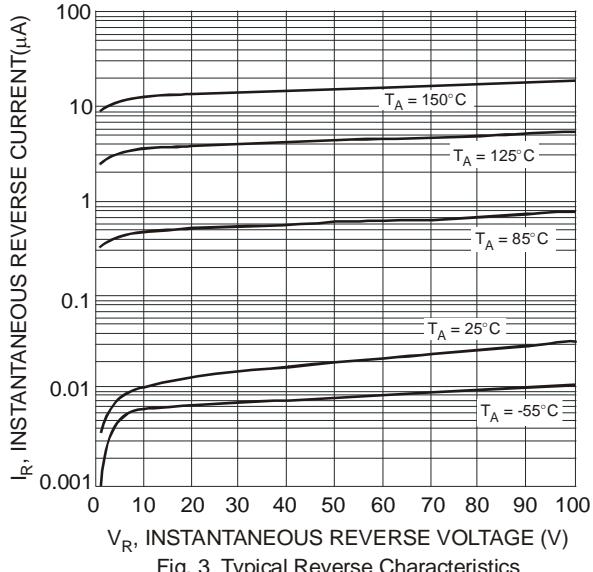


Fig. 3 Typical Reverse Characteristics

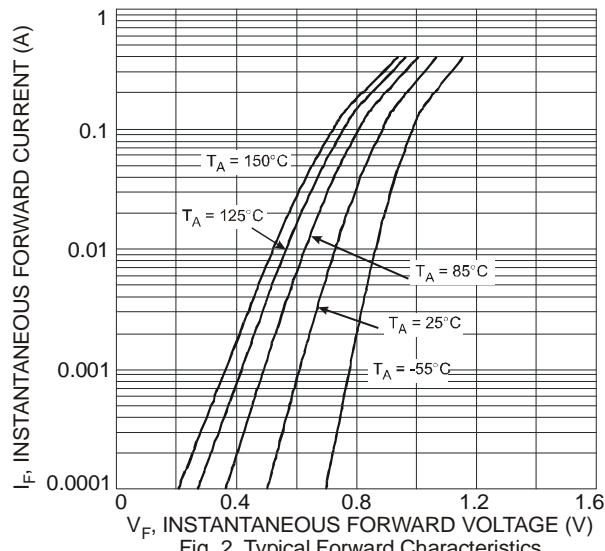


Fig. 2 Typical Forward Characteristics

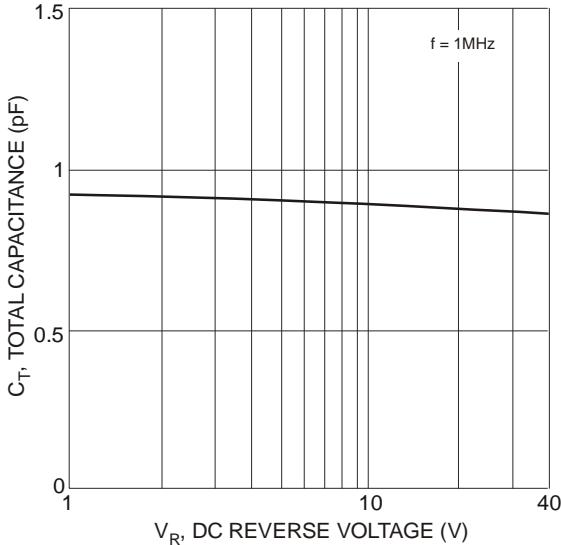
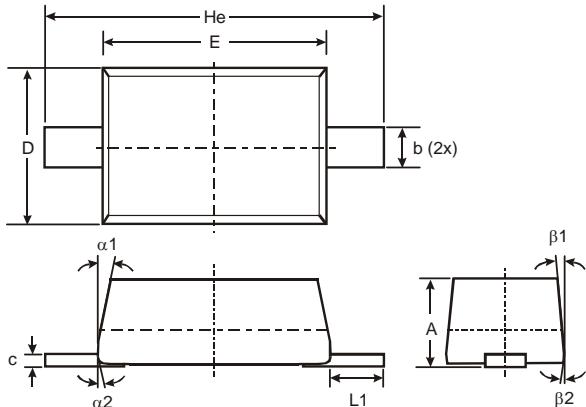


Fig. 4 Total Capacitance vs. Reverse Voltage

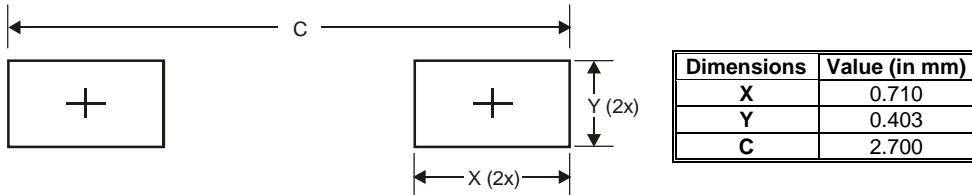
## Package Outline Dimensions



SOD323F			
Dim	Min	Max	Typ
<b>A</b>	0.60	0.75	—
<b>b</b>	0.25	0.35	—
<b>c</b>	0.05	0.26	—
<b>D</b>	1.15	1.35	1.25
<b>E</b>	1.60	1.80	1.70
<b>He</b>	2.30	2.70	2.50
<b>L1</b>	0.30	0.50	0.40
<b>α1</b>	—	—	7°
<b>α2</b>	—	—	3°
<b>β1</b>	—	—	7°
<b>β2</b>	—	—	3°

All Dimensions in mm

## Suggested Pad Layout



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