

## Excellent Integrated System Limited

Stocking Distributor

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[Diodes Incorporated](#)  
[1N4448WSF-7](#)

For any questions, you can email us directly:

[sales@integrated-circuit.com](mailto:sales@integrated-circuit.com)



**1N4448WSF**

**SURFACE MOUNT FAST SWITCHING DIODE**

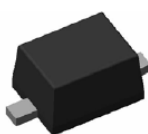
**Features**

- Fast Switching Speed:  $t_r \leq 4.0\text{ns}$
- 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	$V_{RRM}$	75	V
Working Peak Reverse Voltage	$V_{RWM}$		
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	$I_{FSM}$	@ $t = 1.0\mu\text{s}$ 4	A
		@ $t = 1.0\text{s}$ 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	$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65 to +150	$^\circ\text{C}$

**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		$I_F = 150\text{mA}$
Leakage Current (Note 5)	$I_R$	—	2.5	$\mu\text{A}$	$V_R = 75\text{V}$
		—	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:
- Part mounted on FR-4 PC board with minimum recommended pad layouts, which can be found on our website at <http://www.diodes.com>.
  - Short duration pulse test used to minimize self-heating.



**1N4448WSF**

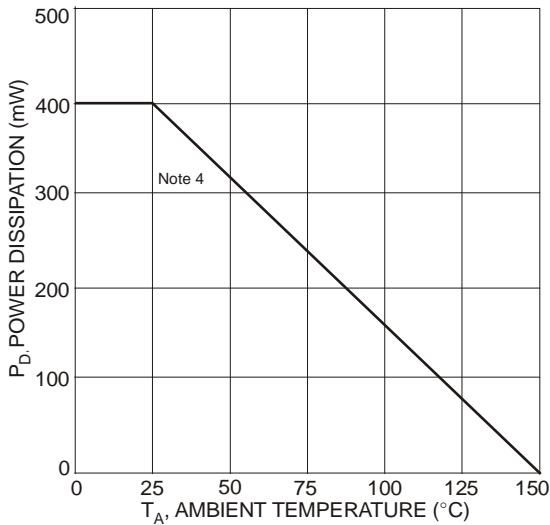


Fig. 1 Forward Current Derating Curve

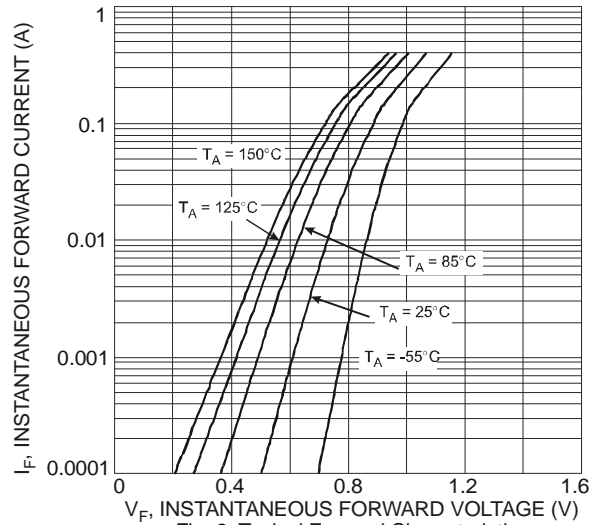


Fig. 2 Typical Forward Characteristics

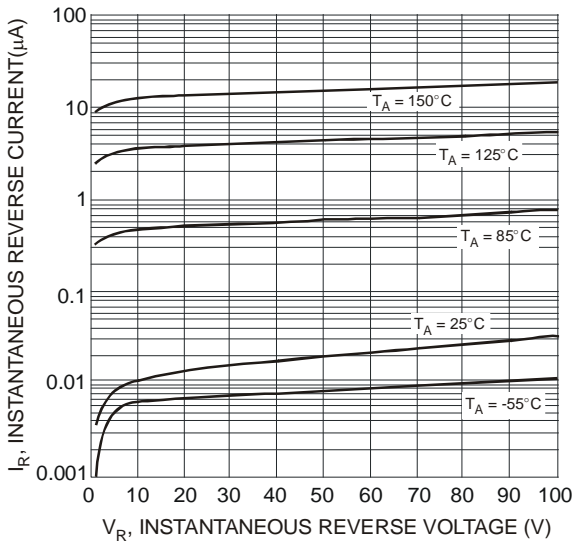


Fig. 3 Typical Reverse Characteristics

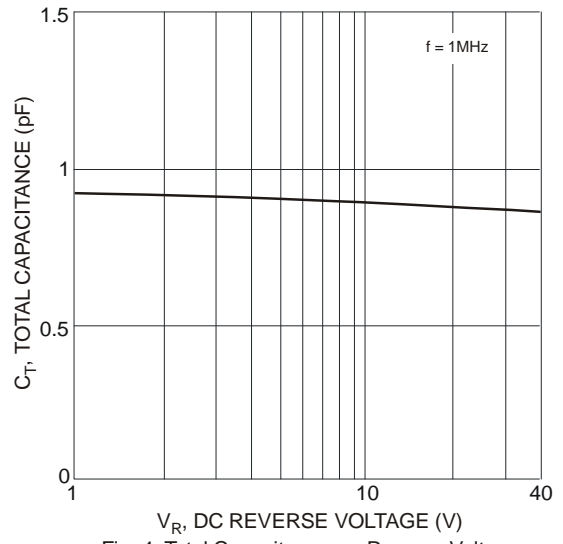
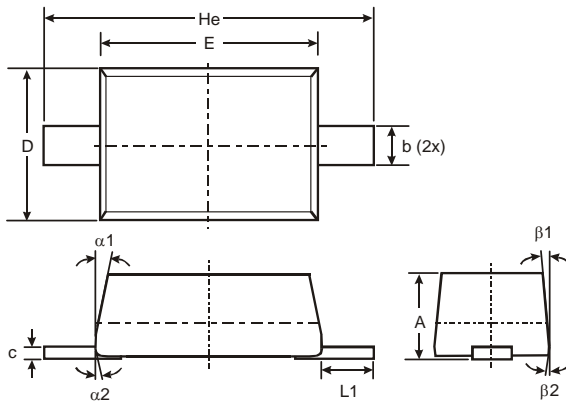


Fig. 4 Total Capacitance vs. Reverse Voltage

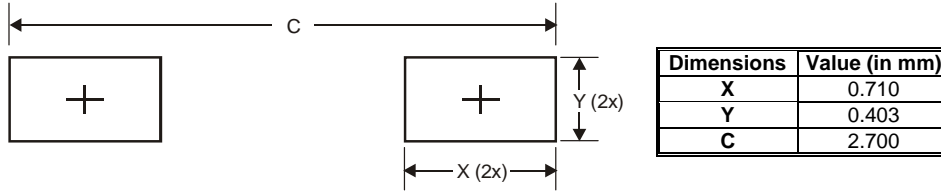
**Package Outline Dimensions**



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

All Dimensions in mm

**Suggested Pad Layout**



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