



**THE DATASHEET OF
1N4448WSF-7**



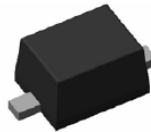
Features

- 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 Code	2011	2012	2013	2014	2015	2016	2017	2018
Year Code	Y	Z	A	B	C	D	E	F

Month Code	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Month Code	1	2	3	4	5	6	7	8	9	O	N	D

Maximum Ratings @T_A = 25°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 = 1.0μs	4
		@ t = 1.0s	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 _{θJA}	313	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 5)	V _{(BR)R}	75	—	V	I _R = 100μA
Forward Voltage	V _F	0.62	0.72	V	I _F = 5.0mA
		—	0.855		I _F = 10mA
		—	1.0		I _F = 100mA
		—	1.25		I _F = 150mA
Leakage Current (Note 5)	I _R	—	2.5	μA	V _R = 75V
		—	50	μA	V _R = 75V, T _J = 150°C
		—	30	μA	V _R = 25V, T _J = 150°C
		—	25	nA	V _R = 20V
Total Capacitance	C _T	—	4.0	pF	V _R = 0, f = 1.0MHz
Reverse Recovery Time	t _{rr}	—	4.0	ns	I _F = I _R = 10mA, I _{rr} = 0.1 x I _R , R _L = 100Ω

- 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.

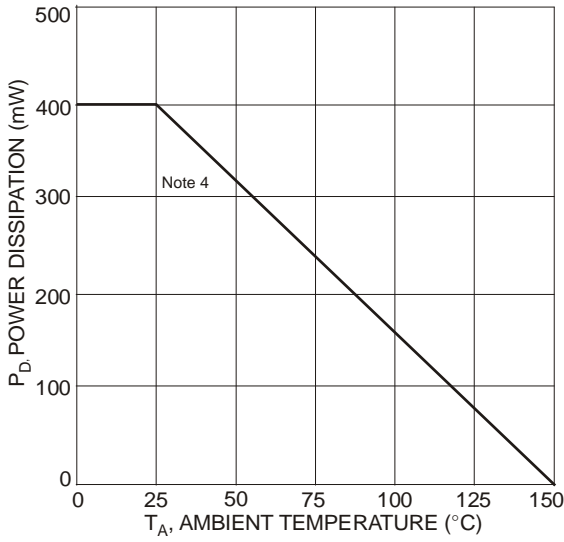


Fig. 1 Forward Current Derating Curve

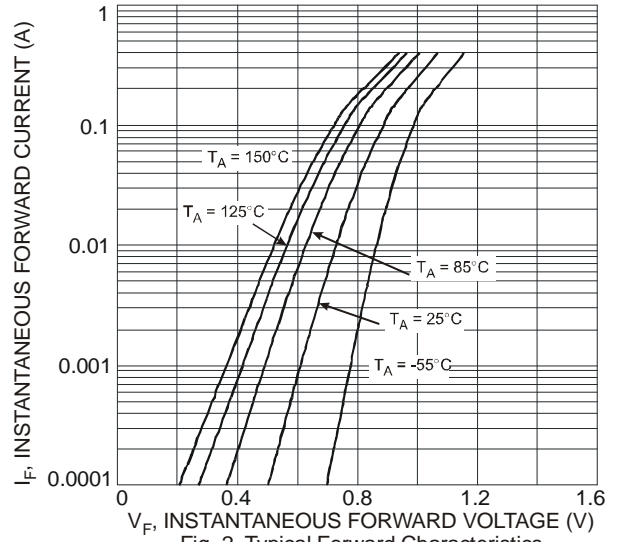


Fig. 2 Typical Forward Characteristics

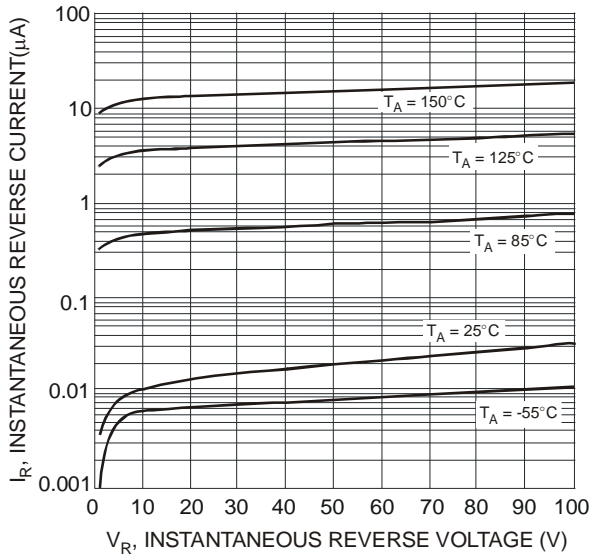


Fig. 3 Typical Reverse Characteristics

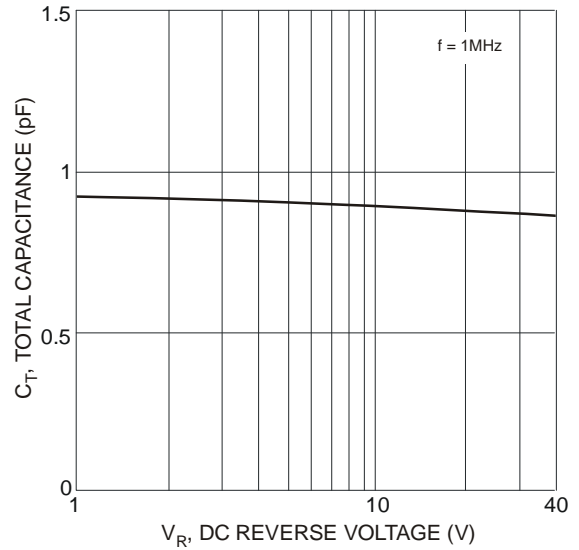
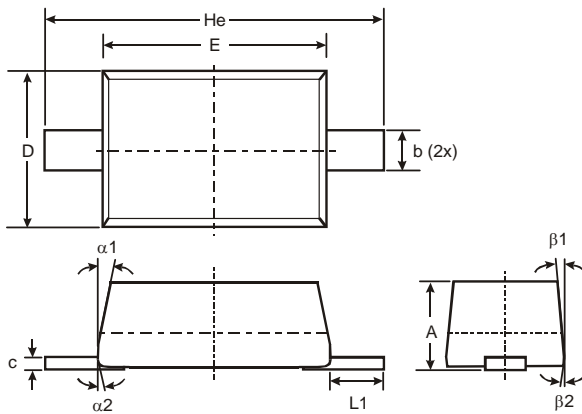


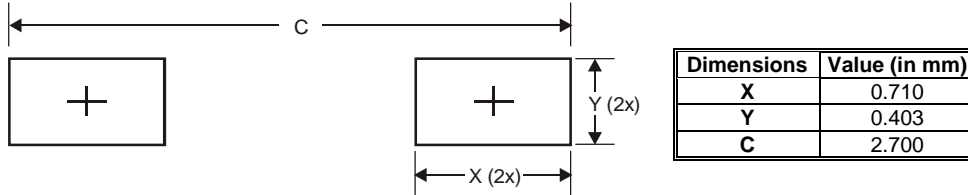
Fig. 4 Total Capacitance vs. Reverse Voltage

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
$\alpha 1$	-	-	7°
$\alpha 2$	-	-	3°
$\beta 1$	-	-	7°
$\beta 2$	-	-	3°
All Dimensions in mm			

Suggested Pad Layout



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