





FAST SWITCHING SURFACE MOUNT DIODE

Features

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automated Insertion
- For General Purpose Switching Applications
- High Conductance
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)

Mechanical Data

- Case: SOD-123
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish annealed over Alloy 42 leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208
- · Polarity: Cathode Band
- Weight: 0.01 grams (approximate)

SOD-123



Top View

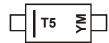
Ordering Information (Note 4)

Part Number	Case	Packaging
1N4448W-7-F	SOD-123	3000/Tape & Reel

Notes:

- 1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
- 2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
- 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
- 4. For packaging details, go to our website at http://www.diodes.com/products/packages.html

Marking Information



T5 = Product Type Marking Code YM = Date Code Marking Y = Year (ex: N = 2002) M = Month (ex: 9 = September)

Date Code Key

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Code	J	K	L	М	Ν	Р	R	S	Т	U	V	W	Χ	Υ	Z	Α	В	С
Month	Jan	1	Feb	Mai	r	Apr	May	/	Jun	Ju	I .	Aug	Sep)	Oct	Nov	,	Dec
Code	1		2	3		4	5		6	7		8	9		0	N		D



Maximum Ratings ($@T_A = +25^{\circ}C$, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Non-Repetitive Peak Reverse Voltage	V_{RM}	100	V
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _R	75	V
RMS Reverse Voltage	$V_{R(RMS)}$	53	V
Forward Continuous Current	I _{FM}	500	mA
Average Rectified Output Current	Io	250	mA
Non-Repetitive Peak Forward Surge Current @t = 1.0	IFONA	4.0 1.0	A

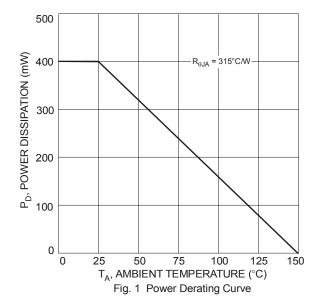
Thermal Characteristics

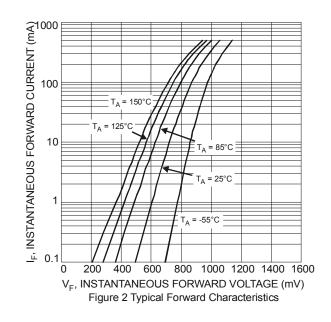
Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	P_{D}	400	mW
Thermal Resistance Junction to Ambient Air (Note 5)	$R_{ hetaJA}$	315	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

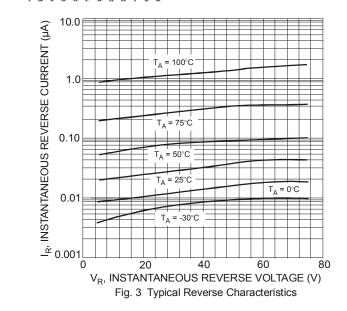
Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	V _{(BR)R}	75	_	٧	$I_R = 10 \mu A$
	V _{FM}	0.62	0.72		I _F = 5.0mA
Forward Voltage		_	0.855	V	I _F = 10mA
olward voltage		_	1.0	V	I _F = 100mA
		_	1.25		I _F = 150mA
	I _{RM}		2.5	μA	V _R = 75V
Peak Reverse Current (Note 6)			50	μA	$V_R = 75V, T_J = +150$ °C
reak Neverse Current (Note o)		_	30	μΑ	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	$I_F = I_R = 10 \text{mA},$
The verse receivery filling	чт			113	$I_{rr} = 0.1 \times I_{R}, R_{L} = 100\Omega$

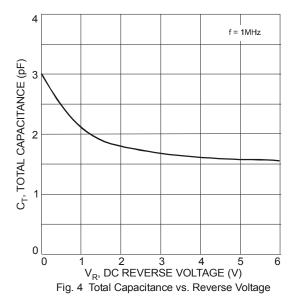
Notes: 5. Part mounted on FR-4 PC board with minimum recommended pad layout, which can be found on our website at http://www.diodes.com.
6. Short duration pulse test used to minimize self-heating effect.











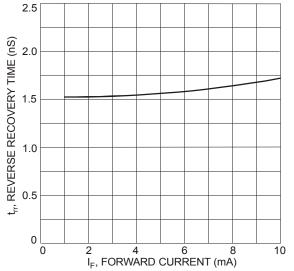
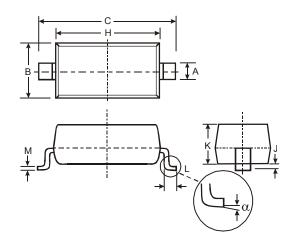


Fig. 5 Reverse Recovery Time vs. Forward Current

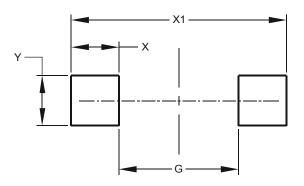
Package Outline Dimensions



SOD-123							
Dim	Min	Max					
Α	0.55 Typ						
В	1.40	1.70					
С	3.55	3.85					
Н	2.55	2.85					
J	0.00	0.10					
K	1.00	1.35					
L	0.25	0.40					
M	0.10	0.15					
α	0	8°					
All Dimensions in mm							



Suggested Pad Layout



Dimensions	Value (in mm)
G	2.250
Х	0.900
X1	4.050
Υ	0.950

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