

**SURFACE MOUNT  
FAST SWITCHING DIODE**

**REVERSE VOLTAGE – 100 Volts  
FORWARD CURRENT – 0.15 Amperes**

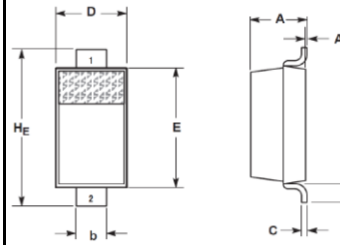
**FEATURES**

- Fast switching speed
- Ideally suited for automatic insertion
- For general purpose switching applications
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

**MECHANICAL DATA**

- Package: SOD-123 plastic
- Package Material: "Green" molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl.), "Halogen-free"
- Moisture Sensitivity: Level 1 per J-STD-020
- Lead free in RoHS 2002/95/EC compliant
- Weight: 11.67mg (Approximate)

**SOD-123**



Dim.	INCHES		MILLIMETERS	
	Min.	Max.	Min.	Max.
A	0.037	0.053	0.94	1.35
A1	0.000	0.004	0.00	0.10
b	0.020	0.028	0.51	0.71
C	--	0.006	--	0.15
D	0.055	0.071	1.40	1.80
E	0.100	0.112	2.54	2.84
H <sub>E</sub>	0.140	0.152	3.56	3.86
L	0.010	--	0.25	--

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at +25°C ambient temperature unless otherwise specified.

**ABSOLUTE RATINGS**

PARAMETER	SYMBOL	VALUE	UNIT
Non-repetitive peak reverse voltage	V <sub>RM</sub>	100	V
Repetitive peak reverse voltage	V <sub>RPM</sub>	100	V
Working peak reverse voltage	V <sub>RWM</sub>		
DC blocking voltage	V <sub>R</sub>		
Forward continuous current	I <sub>FM</sub>	300	mA
Average rectified output current	I <sub>O</sub>	150	mA
Non-repetitive peak forward current @ t = 1us	I <sub>FSM</sub>	2	A
Repetitive peak forward current	I <sub>FRM</sub>	300	mA
Power dissipation	P <sub>D</sub>	400	mW
Operation temperature range	T <sub>J</sub>	+150	°C
Storage temperature range	T <sub>STG</sub>	-65 to +150	°C

**STATIC ELECTRICAL CHARACTERISTICS**

PARAMETER	TEST CONDITION	SYMBOL	MAX	UNIT
Forward voltage	I <sub>F</sub> = 1mA	V <sub>F</sub>	715	mV
	I <sub>F</sub> = 10mA		855	
	I <sub>F</sub> = 50mA		1000	
	I <sub>F</sub> = 150mA		1250	
Reverse leakage current	V <sub>R</sub> = 75V	I <sub>R</sub>	2500	nA
	V <sub>R</sub> = 20V		25	
Typical junction capacitance	V <sub>R</sub> = 0V, f = 1MHz	C <sub>D</sub>	2	pF

**THERMAL CHARACTERISTICS**

PARAMETER	SYMBOL	TYP.	UNIT
Typical thermal resistance	R <sub>thJA</sub>	357	°C/W
	R <sub>thJC</sub>	200	

**DYNAMIC ELECTRICAL CHARACTERISTICS**

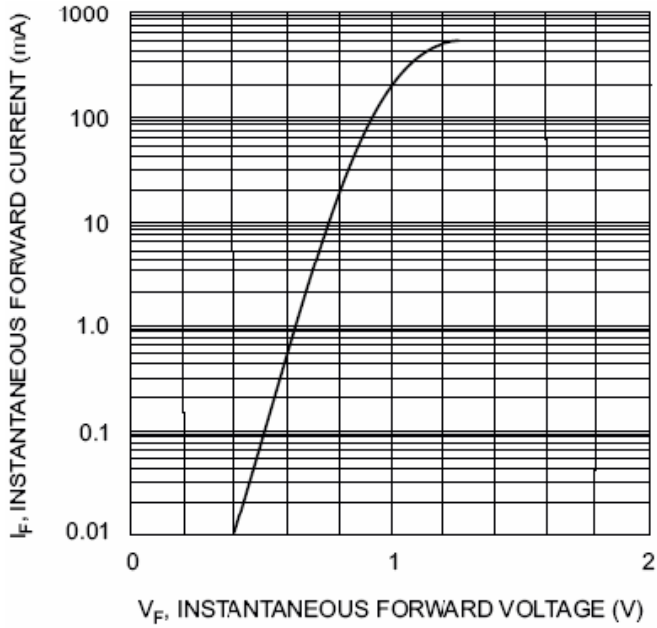
PARAMETER	TEST CONDITION	SYMBOL	TYP.	UNIT
Reverse recovery time	I <sub>F</sub> = 0.5A, I <sub>rr</sub> = 0.25A, I <sub>R</sub> = 1.0A	t <sub>rr</sub>	4	ns

**Notes:**

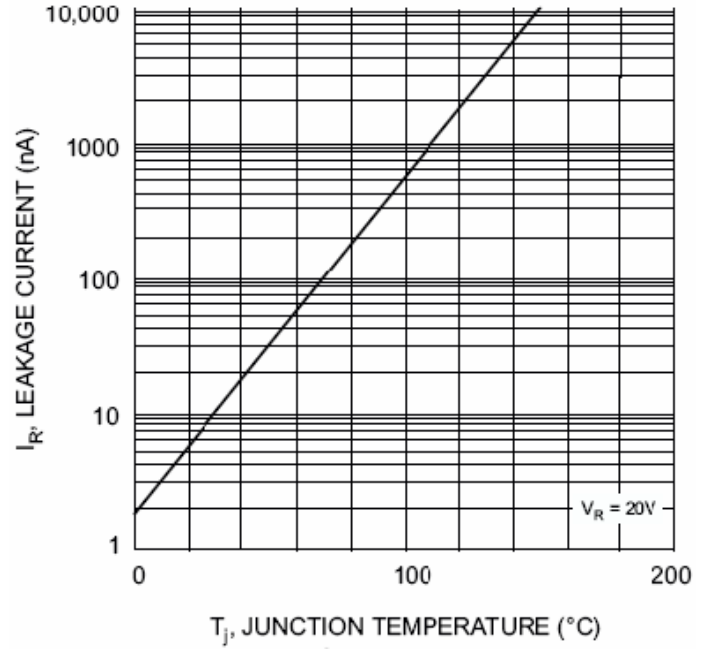
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

**RATING AND CHARACTERISTIC CURVES**  
**1N4148W**

**Fig.1 Typical Forward Characteristics**



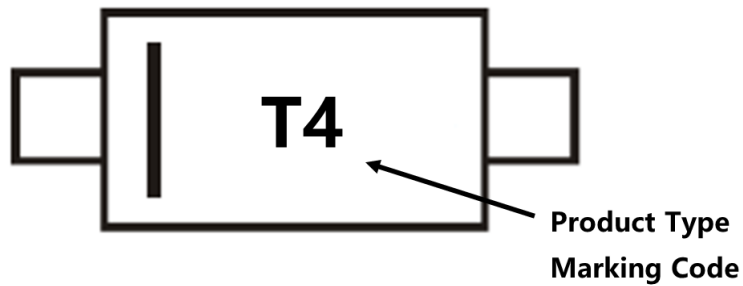
**Fig.2 Typical Reverse Characteristics**



### Ordering Information:

Part Number	Package	Packing	
		Qty.	Carrier
1N4148W	SOD-123	3000pcs	Tape & Reel

### Marking Information:



Device	Marking Code	Pin Diagram	Equivalent Circuit Diagram
1N4148W	T4		

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