



# 1N4001WS THRU 1N4007WS

Reverse Voltage - 50 to 1000 Volts Forward Current - 1.0 Ampere

## SURFACE MOUNT GENERAL PURPOSE SILICON RECTIFIER

### Features

- ◆ Glass passivated device
- ◆ Ideal for surface mounted applications
- ◆ Low reverse leakage
- ◆ Metallurgically bonded construction
- ◆ High temperature soldering guaranteed:
- ◆ 250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

### Mechanical Data

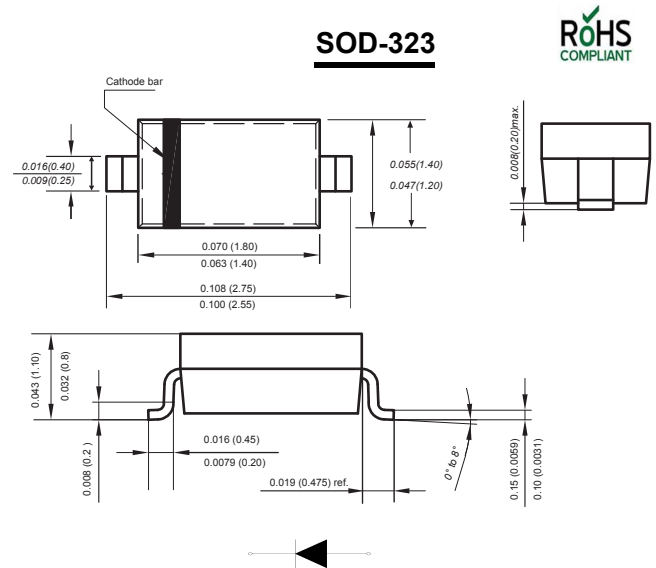
Case : SOD-323

Terminals : Solderable per MIL-STD-750, Method 2026A

Polarity : Polarity symbol marking on body

Mounting Position : Any

Weight : 0.00619 ounce, 0.00548 grams



Dimensions in inches and (millimeters)

### Maximum Ratings And Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

Parameter	SYMBOLS	1N4001WS	1N4002WS	1N4003WS	1N4004WS	1N4005WS	1N4006WS	1N4007WS	UNITS
		MDD D1	MDD D2	MDD D3	MDD D4	MDD D5	MDD D6	MDD D7	
Maximum repetitive peak reverse voltage	$V_{RMM}$	50	100	200	400	600	800	1000	V
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum average forward rectified current at TL (see fig. 1)	$I_{(AV)}$	1.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	25							A
Maximum instantaneous forward voltage at 1.0A	$V_F$	1.1							V
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=125^\circ\text{C}$	$I_R$	5 50							$\mu\text{A}$
Typical junction capacitance (NOTE 1)	$C_J$	5							pF
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$	55.0							$^\circ\text{C}/\text{W}$
Operating junction temperature range	$T_J$	-55 to +150							$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-55 to +150							$^\circ\text{C}$

**Note:** 1. Measured at 1.0MHz and applied reverse voltage of 4.0V D.C.  
2. P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.  
3. The typical data above is for reference only.



# 1N4001WS THRU 1N4007WS

Reverse Voltage - 50 to 1000 Volts Forward Current - 1.0 Ampere

## Typical Characteristics

Fig.1 Forward Current Derating Curve

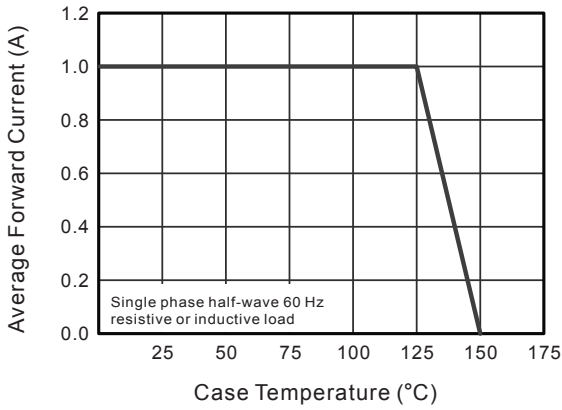


Fig.2 Typical Instantaneous Reverse Characteristics

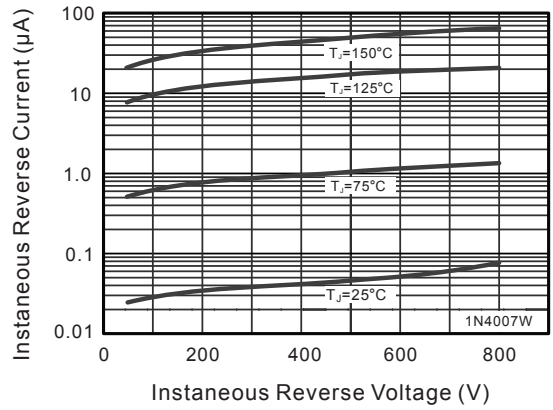


Fig.3 Typical Forward Characteristic

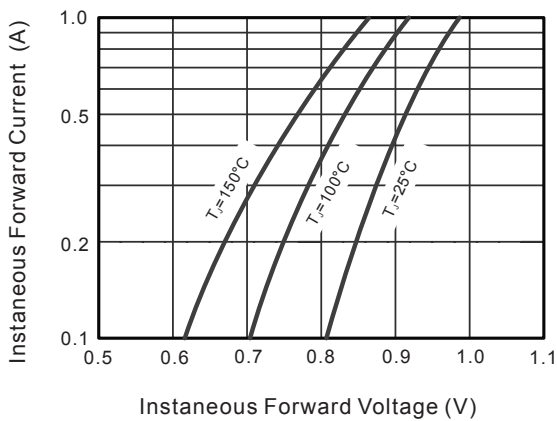


Fig.4 Typical Junction Capacitance

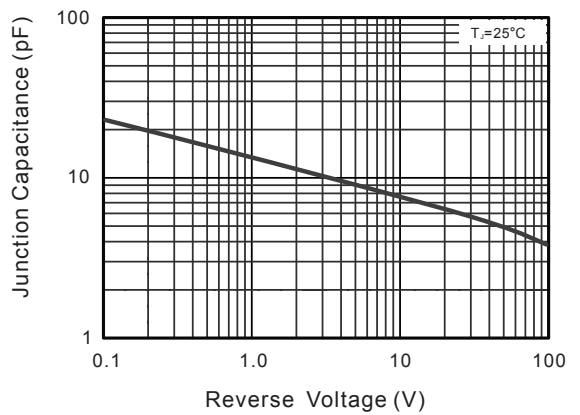
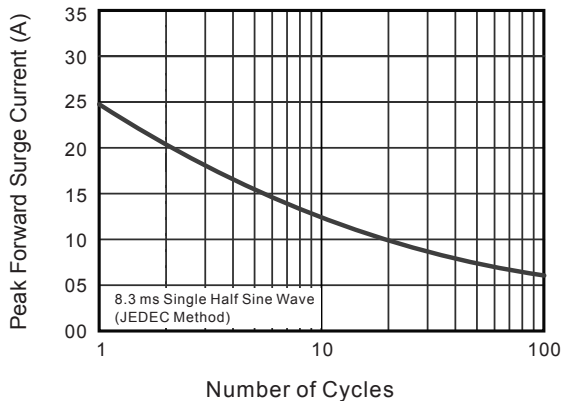


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



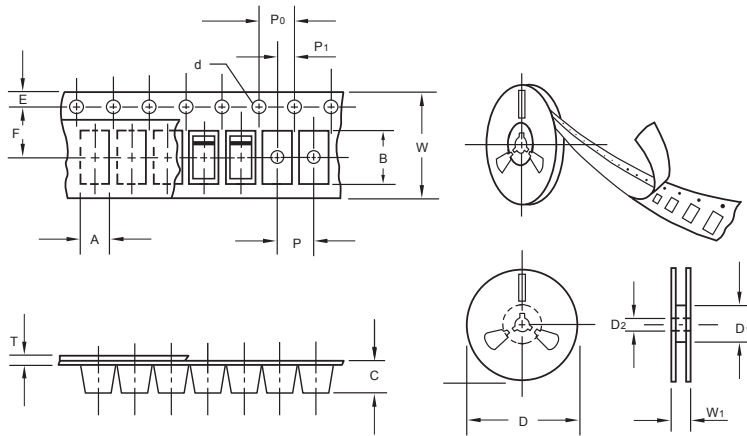
The curve above is for reference only.



# 1N4001WS THRU 1N4007WS

Reverse Voltage - 50 to 1000 Volts Forward Current - 1.0 Ampere

## Packing information



unit:mm

Item	Symbol	Tolerance	SOD-323
Carrier width	A	0.1	1.46
Carrier length	B	0.1	2.90
Carrier depth	C	0.1	1.25
Sprocket hole	d	0.05	1.50
13" Reel outside diameter	D	2.0	330.00
13" Reel inner diameter	D <sub>1</sub>	min	50.00
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D <sub>1</sub>	min	54.40
Feed hole diameter	D <sub>2</sub>	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P <sub>0</sub>	0.1	4.00
Embossment center	P <sub>1</sub>	0.1	2.00
Overall tape thickness	T	0.1	0.06
Tape width	W	0.3	8.00
Reel width	W <sub>1</sub>	1.0	12.30

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

## Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA, (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
SOD-323	7"	3,000	4.0	45,000	210*208*203	178	430*430*235	180,000	9.0

## Suggested Pad Layout



Symbol	Unit (mm)	Unit (inch)
A	1.2	0.047
B	1.2	0.047
C	2.6	0.102
D	1.4	0.055
E	3.8	0.149