

1N4001WS THRU 1N4007WS

SURFACE MOUNT GENERAL PURPOSE RECTIFIER

SOD-323 Surface Mount General Purpose Rectifier

Features

- For surface mounted applications
- Low reverse leakage
- High forward surge current capability
- Glass passivated Standard rectifiers

Applications

For use in general purpose rectification of power supplies, inverters, converters, and freewheeling diodes for consumer and telecommunication

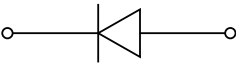
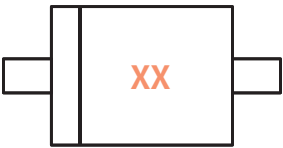
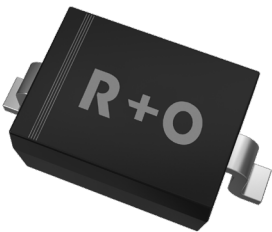
Mechanical Data

- Case: SOD-323
Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Cathode line denotes the cathode end

Function Diagram

Reverse Voltage
50-1000 V
Forward Current
1 Ampere

SOD-323



Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	1N4001WS	1N4002WS	1N4003WS	1N4004WS	1N4005WS	1N4006WS	1N4007WS
Device marking code			1A	2A	3A	4A	5A	6A	7A
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	V	50	100	200	400	600	800	1000
Maximum RMS Voltage	V_{RMS}	V	35	70	140	280	420	560	700
Maximum DC blocking Voltage	V_{DC}	V	50	100	200	400	600	800	1000
Maximum Average Forward Rectified Current @60Hz sinewave, Resistance load,TL (Fig.1)	$I_{F(AV)}$	A	1.0						
Non-repetitive Peak Forward Surge Current @ t=8.3ms Half-sine wave	I_{FSM}	A	25						
Storage temperature	T_{stg}	°C	-55 ~+150						
Junction temperature	T_j	°C	150						
	$R_{\theta J-L}$	°C / W	35						

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● **Electrical Characteristics** (Ta=25°C Unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	Min	Typ	Max
Maximum instantaneous forward voltage	$I_F=0.5A$	V_F	V	—	0.92	1.1
	$I_F=1.0A$			—	0.98	1.1
Maximum DC reverse currentat rated DC blocking voltage	$V_R=V_{DC}, T_A=25^{\circ}C$	I_{R1}	μA	—	—	5
	$V_R=V_{DC}, T_A=125^{\circ}C$	I_{R2}		—	—	50
Typical junction capacitance	4.0V DC,1MHz	C_J	pF	—	15	—

● **Ratings And Characteristics Curves** (Ta=25°C Unless otherwise specified)

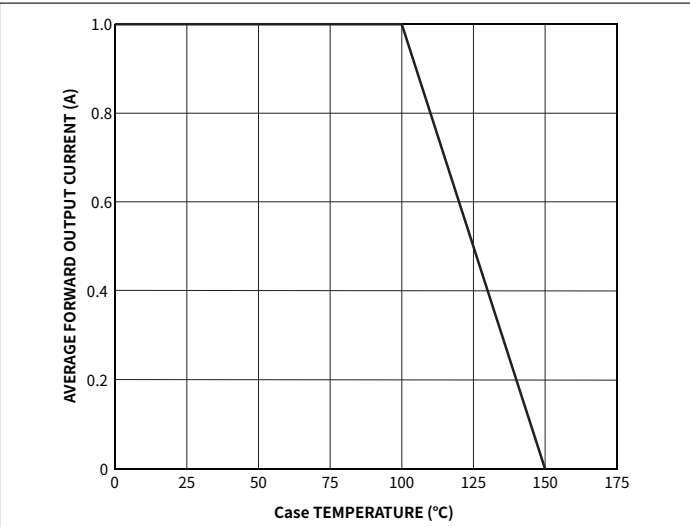


Fig.1 Forward Current Derating Curve

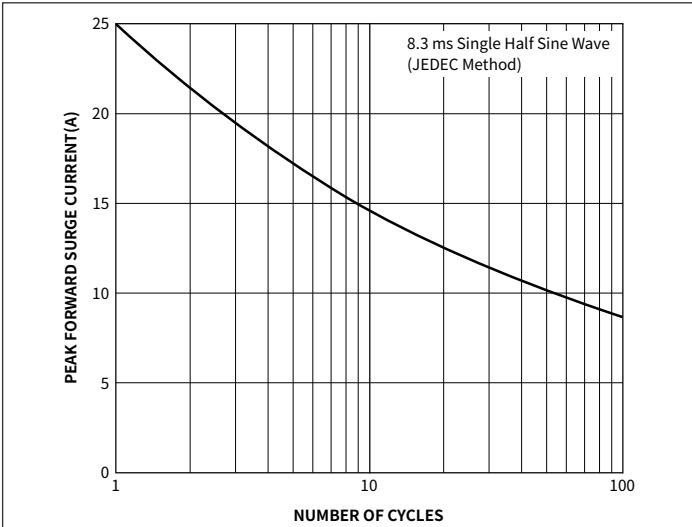


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

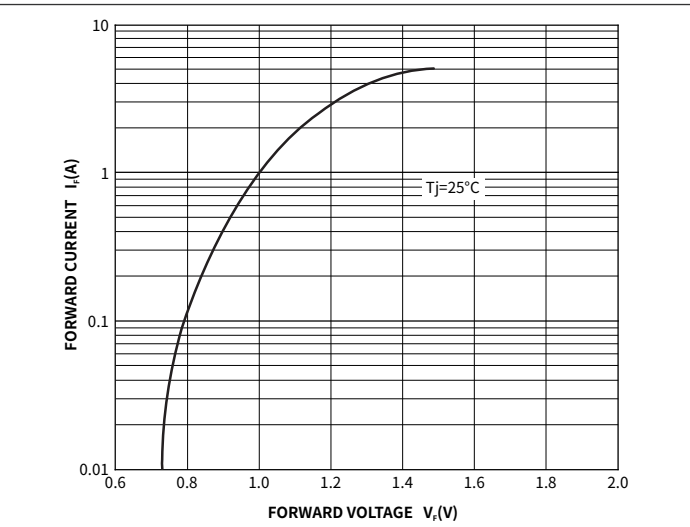


Fig.3 Typical Forward Voltage

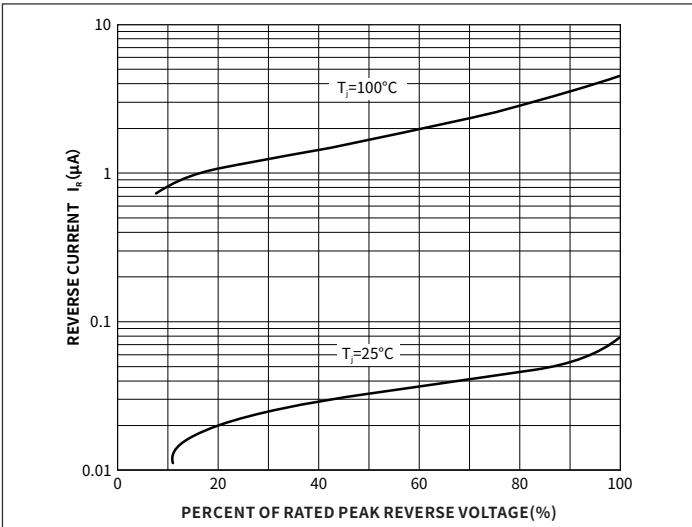


Fig.4 Typical Reverse Characteristics

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● Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOD-323	R1	0.0048	3000	30000	180000	7"

● Package Outline Dimensions (SOD-323)

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.40	1.80	0.055	0.071
B	0.25	0.40	0.010	0.016
C	2.30	2.80	0.091	0.110
D	0.80	1.10	0.031	0.043
D ₁	0.80	0.90	0.031	0.035
E	1.20	1.40	0.047	0.055
F	0.08	0.18	0.003	0.007
L	0.475REF		0.019REF	
L ₁	0.20	0.45	0.008	0.018
H	-	0.2	-	0.008

● Suggested Pad Layout

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
X	0.65	0.75	0.026	0.030
Y	0.65	0.75	0.026	0.030
Z	2.10	2.20	0.084	0.088