

# SOD-323 Plastic-Encapsulate Diodes

## 1N3004WS Silicon Epitaxial Planar Diode

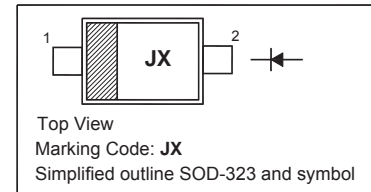
High Voltage Switching Diode

### Features

- Fast switching speed
- High Conductance
- High Reverse Breakdown Voltage

### PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



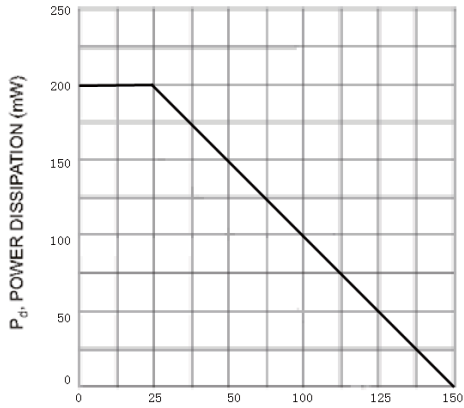
### Absolute Maximum Ratings ( $T_a = 25\text{ }^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	$V_{RRM}$	350	V
Working Peak Reverse Voltage	$V_{RWM}$	300	V
Reverse Voltage	$V_R$	300	V
Continuous Forward Current	$I_F$	225	mA
Peak Repetitive Forward Current	$I_{FRM}$	625	mA
Non-Repetitive Peak Forward Surge Current	$I_{FSM}$	4	A
		1	
Power Dissipation	$P_d$	200	mW
Operating and Storage Temperature Range	$T_j, T_{stg}$	- 65 to + 150	$^\circ\text{C}$

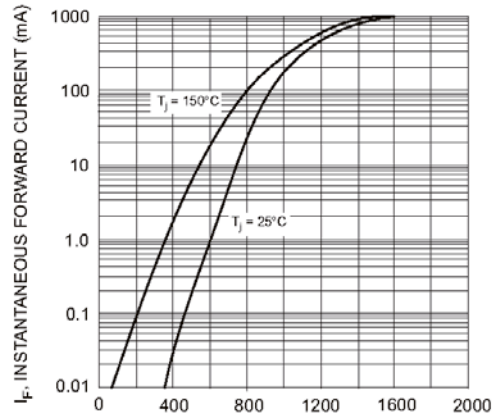
### Characteristics at $T_a = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit
Forward Voltage at $I_F = 20\text{ mA}$ at $I_F = 100\text{ mA}$ at $I_F = 200\text{ mA}$	$V_F$	- - -	0.87 1 1.25	V
Reverse Current at $V_R = 240\text{ V}$ at $V_R = 240\text{ V}, T_j = 150\text{ }^\circ\text{C}$	$I_R$	- -	100 100	nA $\mu\text{A}$
Reverse Breakdown Voltage at $I_R = 100\text{ }\mu\text{A}$	$V_{(BR)R}$	300	-	V
Total Capacitance at $V_R = 0, f = 1\text{ MHz}$	$C_T$	-	5	pF
Reverse Recovery Time at $I_F = I_R = 30\text{ mA}, i_{tr} = 0.1 I_R, R_L = 100\text{ }\Omega$	$t_{rr}$	-	50	ns

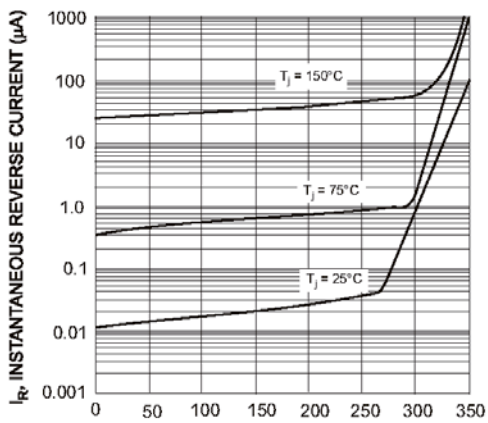
## Typical Characteristics



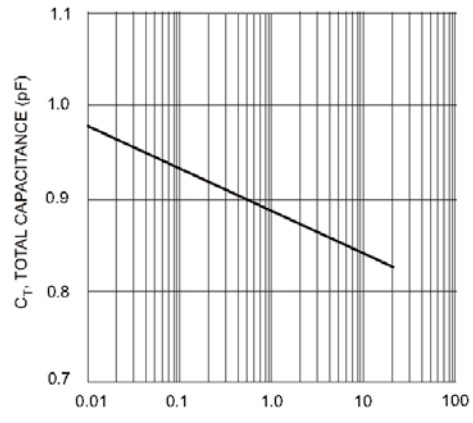
$T_A$ , AMBIENT TEMPERATURE, (°C)  
Fig. 1 Power Derating Curve, total package



$V_F$ , INSTANTANEOUS FORWARD VOLTAGE (mV)  
Fig. 2 Typical Forward Characteristics, per element



$V_R$ , INSTANTANEOUS REVERSE VOLTAGE (V)  
Fig. 3 Typical Reverse Characteristics, per element



$V_R$ , REVERSE VOLTAGE (V)  
Fig. 4 Typical Total Capacitance vs. Reverse Voltage, per element

## PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

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