

# 1N4001 - 1N4007 General Purpose Rectifiers

## Features

- Low forward voltage drop.
- High surge current capability.



**DO-41**  
COLOR BAND DENOTES CATHODE

## Absolute Maximum Ratings \* $T_A = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value							Units
		4001	4002	4003	4004	4005	4006	4007	
$V_{RRM}$	Peak Repetitive Reverse Voltage	50	100	200	400	600	800	1000	V
$I_{F(AV)}$	Average Rectified Forward Current .375 " lead length @ $T_A = 75^\circ\text{C}$	1.0							A
$I_{FSM}$	Non-Repetitive Peak Forward Surge Current 8.3ms Single Half-Sine-Wave	30							A
$I^2t$	Rating for Fusing ( $t < 8.3\text{ms}$ )	3.7							$\text{A}^2\text{sec}$
$T_{STG}$	Storage Temperature Range	-55 to +175							$^\circ\text{C}$
$T_J$	Operating Junction Temperature	-55 to +175							$^\circ\text{C}$

\* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

## Thermal Characteristics

Symbol	Parameter	Value	Units
$P_D$	Power Dissipation	3.0	W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	50	$^\circ\text{C}/\text{W}$

## Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units	
$V_F$	Forward Voltage @ 1.0A	1.1	V	
$I_{rr}$	Maximum Full Load Reverse Current, Full Cycle $T_A = 75^\circ\text{C}$	30	$\mu\text{A}$	
$I_R$	Reverse Current @ Rated $V_R$	$T_A = 25^\circ\text{C}$	5.0	$\mu\text{A}$
		$T_A = 100^\circ\text{C}$	50	$\mu\text{A}$
$C_T$	Total Capacitance $V_R = 4.0\text{V}$ , $f = 1.0\text{MHz}$	15	pF	

Typical Performance Characteristics

Figure 1. Forward Current Derating Curve

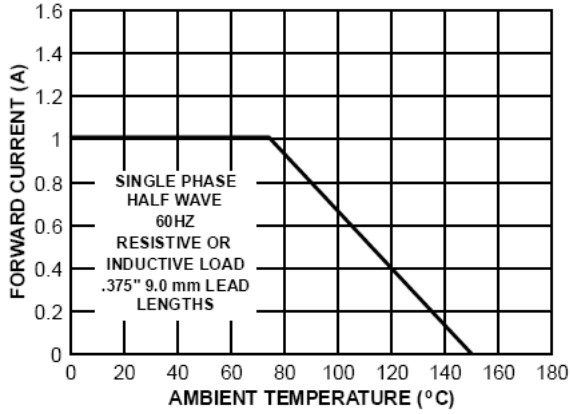


Figure 2. Forward Characteristics

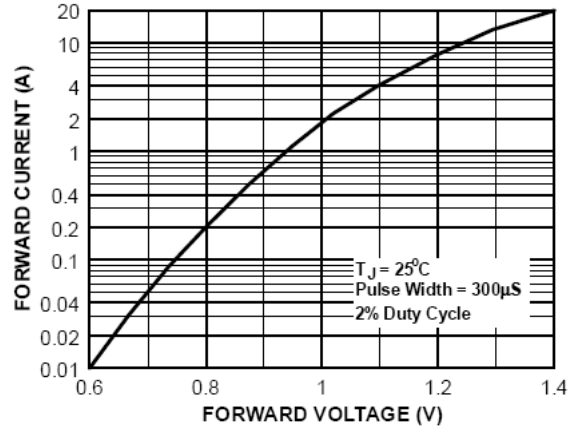


Figure 3. Non-Repetitive Surge Current

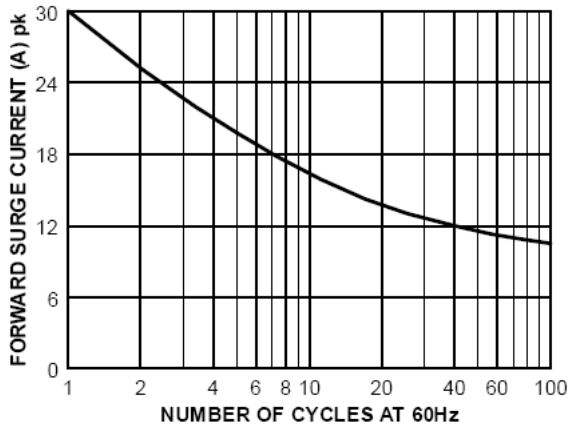
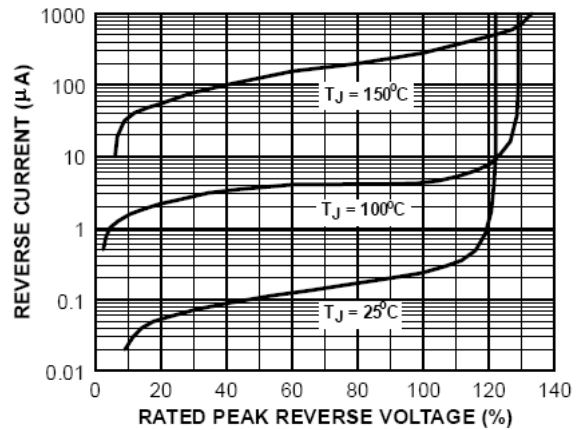


Figure 4. Reverse Characteristics





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