

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							A^2sec
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	μA	
I_R	Reverse Current @ Rated V_R	$T_A = 25^\circ\text{C}$	5.0	μA
		$T_A = 100^\circ\text{C}$	50	μA
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

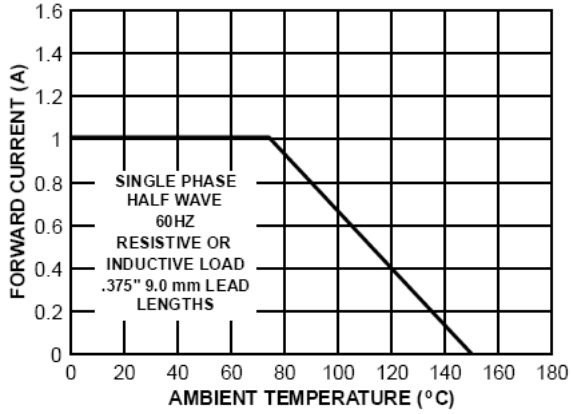


Figure 2. Forward Characteristics

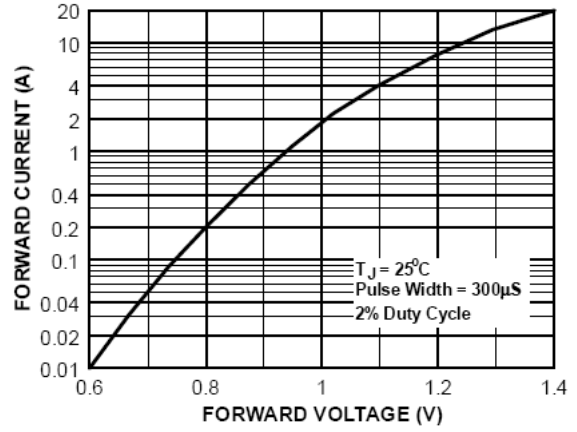


Figure 3. Non-Repetitive Surge Current

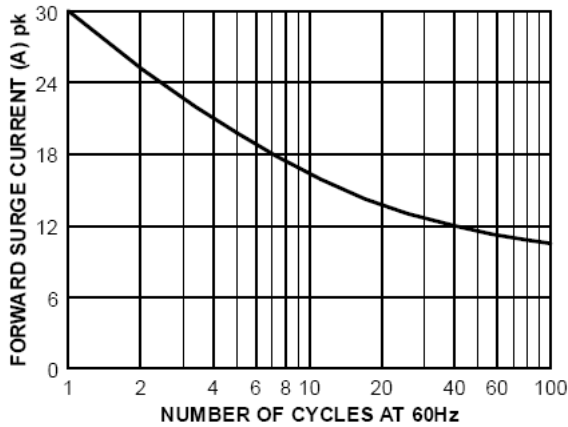
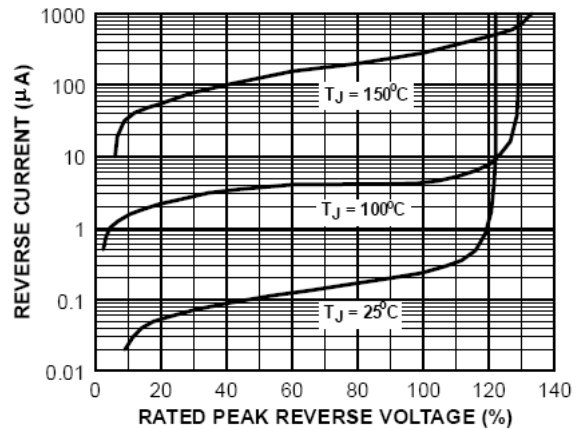


Figure 4. Reverse Characteristics





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