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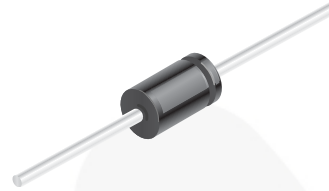


November 2014

# 1N4001 - 1N4007 General-Purpose Rectifiers

## Features

- Low Forward Voltage Drop
- High Surge Current Capability



**DO-41**  
COLOR BAND DENOTES CATHODE

## Ordering Information

Part Number	Top Mark	Package	Packing Method
1N4001	1N4001	DO-204AL (DO-41)	Tape and Reel
1N4002	1N4002	DO-204AL (DO-41)	Tape and Reel
1N4003	1N4003	DO-204AL (DO-41)	Tape and Reel
1N4004	1N4004	DO-204AL (DO-41)	Tape and Reel
1N4005	1N4005	DO-204AL (DO-41)	Tape and Reel
1N4006	1N4006	DO-204AL (DO-41)	Tape and Reel
1N4007	1N4007	DO-204AL (DO-41)	Tape and Reel

## Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Value							Unit
		1N 4001	1N 4002	1N 4003	1N 4004	1N 4005	1N 4006	1N 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 at $T_A = 75^\circ\text{C}$	1.0							A
$I_{FSM}$	Non-Repetitive Peak Forward Surge Current 8.3 ms Single Half-Sine-Wave	30							A
$I^2t$	Rating for Fusing ( $t < 8.3$ 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							$^\circ\text{C}$

1N4001 - 1N4007 — General-Purpose Rectifiers

## Thermal Characteristics

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

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

## Electrical Characteristics

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Conditions	Value	Unit
$V_F$	Forward Voltage	$I_F = 1.0\text{ A}$	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 at Rated $V_R$	$T_A = 25^\circ\text{C}$	5.0	$\mu\text{A}$
		$T_A = 100^\circ\text{C}$	50	
$C_T$	Total Capacitance	$V_R = 4.0\text{ V}$ , $f = 1.0\text{ MHz}$	15	pF

### Typical Performance Characteristics

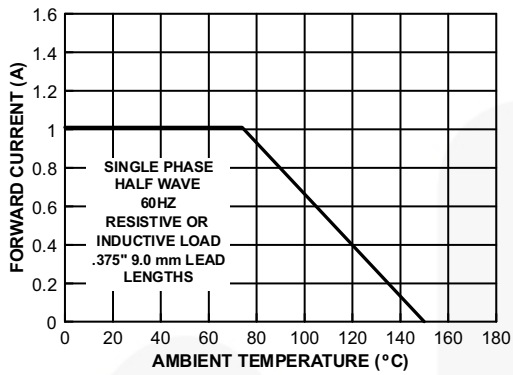


Figure 1. Forward Current Derating Curve

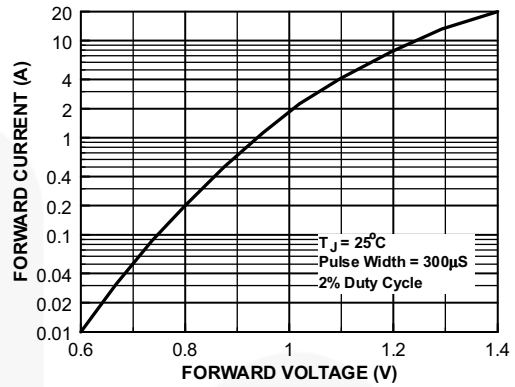


Figure 2. Forward Characteristics

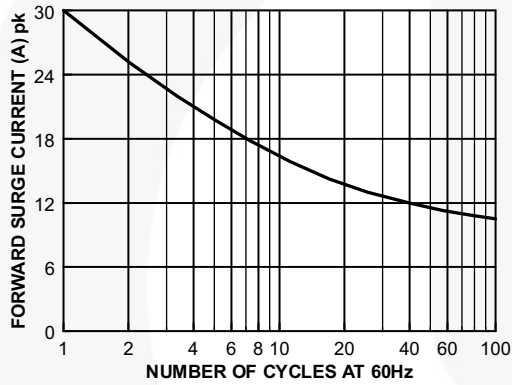


Figure 3. Non-Repetitive Surge Current

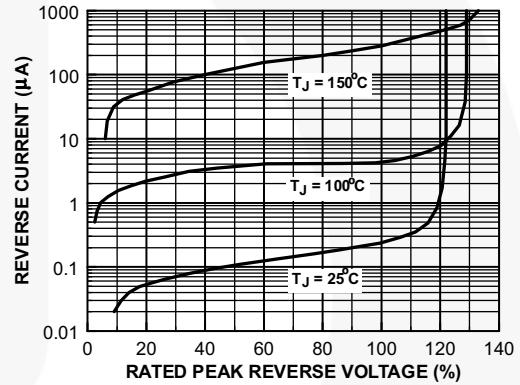
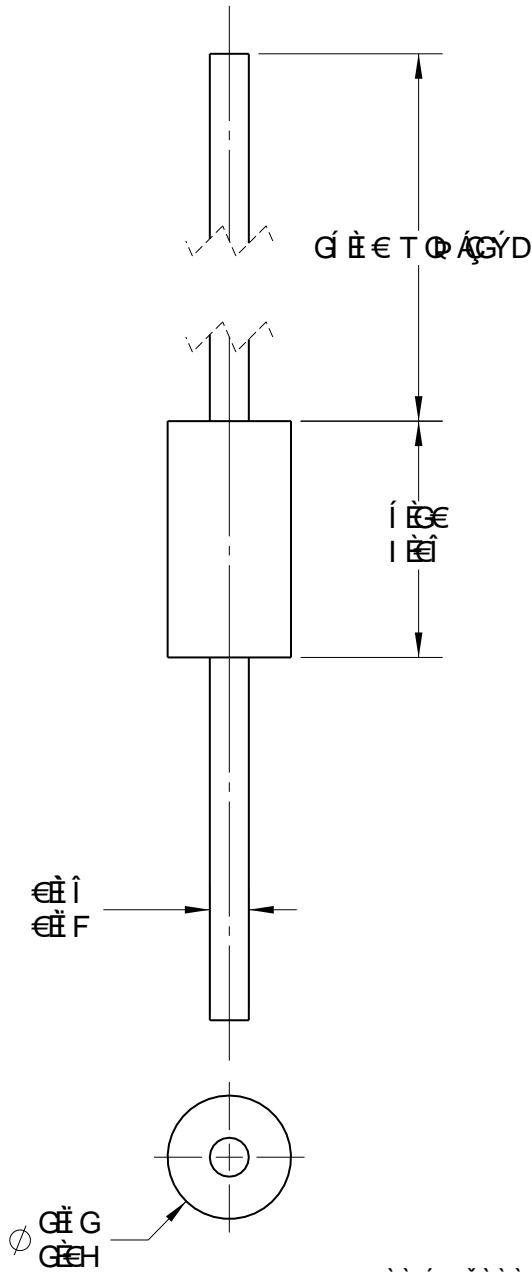


Figure 4. Reverse Characteristics

VP:QKQBY @ OABAP CAUULUUVY AIKQKBPQSAOT EBFONVUUUUUUCBFBHUMUO  
 VP:OUUAPRQSSOCOT QDQVPOAPQ:EBUABUOCUQ@OAKU DAUULUUSUAEUAMOT QVCO  
 VUAKBPQSAOT EBFONVUUUUUUCBFBHUMUO UAOBYOONVCOAB QUPBUUT QY  
 Y QP ANQP ABUULUUSAN SPOLUPOUKU UVAUKQBEPQSAOT EBFONVUUUAEUE  
 UUUUBFB AFGUUKVSY KQCH AUVA QCB U AGRVA QAP QADQBY @ OAPRQSKO  
 OUUBA UG AVS QCB: OAU UA UDU B VCB VUUBS UUCOQAP QBUUT QVBF AU B VCB OO  
 UBAP QADQBY @ OABAP QCB VESAP QAUU UUBVUQY E

# ÛÒΧΩΗΨÙ

ΠΟΪ	ΘΟΥΘΥΩΥΩΠ	ΘΕΒÒ	ΘΨΕΪÙ
F	ÛÓΣQÛOÁUÁOÓ	GRMSé	PÿQ@EÁVZPUW
G	ÒΠ@ OÁ E@ÁUÁ E@E ÒΠ@ OÁ UVOÁ OÁE OÁJSE VÓÁU OÛYE ÛÓT U XOÁ G S@U A U P Q V S@E	FJUÓUé	PÿQ@EÁVZPUW



ΨUVÒUÁMP SÒUÚÁ VPOÛY QIÒÁUÓO@O

ÁACEÁU O@S Q@ÁU VCB ÖCEÜÖÁJ OZOÛO P ÔOKÁ  
 RÓOÓOÁU GEI ÁKEÜQV@PÁCSÉ  
 ÁMÓDÁU O@S Q@OÁU OÛÁ OCB ÁOCÁJ S@E V OÁU ÁÁ  
 ÁMÓDÁU P OÚT ÓV O@SSY ÁUCESÓO Á S@E UÁE  
 ÁMÓDÁU S@OQ ÓP ÚQ P UÁCEÜ OÁ P Á S@OQ ÓV OÚUE  
 ÁMÓDÁU ÜCB @ OÁZSÓÁ P C E T ÓK OUI FOÉÜXG

CEÜÜU X@SÙ	ΘΕΒÒ				
ΘΟΥΒ'PK ΘΟΥΥÁ' QESÙ	FJUÓUé				
ÒΠÓΣQK PÓP ÚÛÁ QCB Ó		<b>CEY QEÁ S@O@OÁE</b> <b>RÓOÓOÁU GEI EÁKEÜQV@PÁCSÉ</b>			
QEUU X@K ÓÛÁ VCB Ó					
QEUU X@K PUY QEUÁSSOP		ÚQ@E FKF	ÚQO PQE	OUB@ @ @ VIT OOU T SV@UI FCE	ÚQK G
ÚUURÓUV@P 		QUT OÚŠTK PBE		ÚPÓVÁK FAU@E	

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