

# 1N4001, 1N4002, 1N4003, 1N4004, 1N4005, 1N4006, 1N4007

1N4004 and 1N4007 are Preferred Devices

## Axial Lead Standard Recovery Rectifiers

This data sheet provides information on subminiature size, axial lead mounted rectifiers for general-purpose low-power applications.

### Mechanical Characteristics

- Case: Epoxy, Molded
- Weight: 0.4 gram (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead and Mounting Surface Temperature for Soldering Purposes: 220°C Max. for 10 Seconds, 1/16" from case
- Shipped in plastic bags, 1000 per bag.
- Available Tape and Reeled, 5000 per reel, by adding a "RL" suffix to the part number
- Available in Fan-Fold Packaging, 3000 per box, by adding a "FF" suffix to the part number
- Polarity: Cathode Indicated by Polarity Band
- Marking: 1N4001, 1N4002, 1N4003, 1N4004, 1N4005, 1N4006, 1N4007

### MAXIMUM RATINGS

Rating	Symbol	1N4001	1N4002	1N4003	1N4004	1N4005	1N4006	1N4007	Unit
*Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	50	100	200	400	600	800	1000	Volts
*Non-Repetitive Peak Reverse Voltage (halfwave, single phase, 60 Hz)	$V_{RSM}$	60	120	240	480	720	1000	1200	Volts
*RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	560	700	Volts
*Average Rectified Forward Current (single phase, resistive load, 60 Hz, $T_A = 75^\circ\text{C}$ )	$I_O$	1.0							Amp
*Non-Repetitive Peak Surge Current (surge applied at rated load conditions)	$I_{FSM}$	30 (for 1 cycle)							Amp
Operating and Storage Junction Temperature Range	$T_J$ $T_{stg}$	-65 to +175							°C

\*Indicates JEDEC Registered Data



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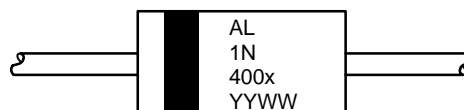
<http://onsemi.com>

## LEAD MOUNTED RECTIFIERS 50-1000 VOLTS DIFFUSED JUNCTION



CASE 59-10  
AXIAL LEAD  
PLASTIC

### MARKING DIAGRAM



AL = Assembly Location  
1N400x = Device Number  
x = 1, 2, 3, 4, 5, 6 or 7  
YY = Year  
WW = Work Week

### ORDERING INFORMATION

See detailed ordering and shipping information on page 2 of this data sheet.

**Preferred** devices are recommended choices for future use and best overall value.

# 1N4001, 1N4002, 1N4003, 1N4004, 1N4005, 1N4006, 1N4007

## ELECTRICAL CHARACTERISTICS\*

Rating	Symbol	Typ	Max	Unit
Maximum Instantaneous Forward Voltage Drop ( $i_F = 1.0$ Amp, $T_J = 25^\circ\text{C}$ )	$V_F$	0.93	1.1	Volts
Maximum Full-Cycle Average Forward Voltage Drop ( $I_O = 1.0$ Amp, $T_L = 75^\circ\text{C}$ , 1 inch leads)	$V_{F(AV)}$	-	0.8	Volts
Maximum Reverse Current (rated dc voltage) ( $T_J = 25^\circ\text{C}$ ) ( $T_J = 100^\circ\text{C}$ )	$I_R$	0.05 1.0	10 50	$\mu\text{A}$
Maximum Full-Cycle Average Reverse Current ( $I_O = 1.0$ Amp, $T_L = 75^\circ\text{C}$ , 1 inch leads)	$I_{R(AV)}$	-	30	$\mu\text{A}$

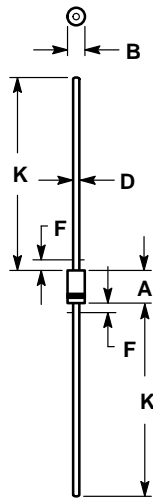
\*Indicates JEDEC Registered Data

## ORDERING & SHIPPING INFORMATION

Device	Package	Shipping
1N4001	Axial Lead	1000 Units/Bag
1N4001FF	Axial Lead	3000 Units/Box
1N4001RL	Axial Lead	5000/Tape & Reel
1N4002	Axial Lead	1000 Units/Bag
1N4002FF	Axial Lead	3000 Units/Box
1N4002RL	Axial Lead	5000/Tape & Reel
1N4003	Axial Lead	1000 Units/Bag
1N4003FF	Axial Lead	3000 Units/Box
1N4003RL	Axial Lead	5000/Tape & Reel
1N4004	Axial Lead	1000 Units/Bag
1N4004FF	Axial Lead	3000 Units/Box
1N4004RL	Axial Lead	5000/Tape & Reel
1N4005	Axial Lead	1000 Units/Bag
1N4005FF	Axial Lead	3000 Units/Box
1N4005RL	Axial Lead	5000/Tape & Reel
1N4006	Axial Lead	1000 Units/Bag
1N4006FF	Axial Lead	3000 Units/Box
1N4006RL	Axial Lead	5000/Tape & Reel
1N4007	Axial Lead	1000 Units/Bag
1N4007FF	Axial Lead	3000 Units/Box
1N4007RL	Axial Lead	5000/Tape & Reel

PACKAGE DIMENSIONS


AXIAL LEAD  
CASE 59-10  
ISSUE S



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. 59-04 OBSOLETE, NEW STANDARD 59-09.
4. 59-03 OBSOLETE, NEW STANDARD 59-10.
5. ALL RULES AND NOTES ASSOCIATED WITH JEDEC DO-41 OUTLINE SHALL APPLY
6. POLARITY DENOTED BY CATHODE BAND.
7. LEAD DIAMETER NOT CONTROLLED WITHIN F DIMENSION.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.161	0.205	4.10	5.20
B	0.079	0.106	2.00	2.70
D	0.028	0.034	0.71	0.86
F	---	0.050	---	1.27
K	1.000	---	25.40	---

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