

# Axial Lead Standard Recovery Rectifiers

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

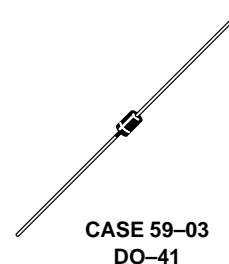
## Mechanical Characteristics

- 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
- Polarity: Cathode Indicated by Polarity Band
- Marking: 1N4001, 1N4002, 1N4003, 1N4004, 1N4005, 1N4006, 1N4007

**1N4001  
thru  
1N4007**

1N4004 and 1N4007 are  
Motorola Preferred Devices

**LEAD MOUNTED  
RECTIFIERS  
50–1000 VOLTS  
DIFFUSED JUNCTION**



## 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, see Figure 8, $T_A = 75^\circ\text{C}$ )	$I_O$	1.0							Amp
*Non-Repetitive Peak Surge Current (surge applied at rated load conditions, see Figure 2)	$I_{FSM}$	30 (for 1 cycle)							Amp
Operating and Storage Junction Temperature Range	$T_J$ $T_{stg}$	– 65 to +175							$^\circ\text{C}$

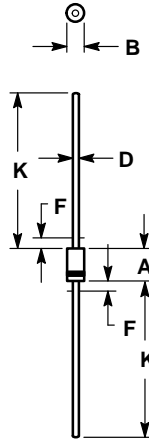
## ELECTRICAL CHARACTERISTICS\*

Rating	Symbol	Typ	Max	Unit
Maximum Instantaneous Forward Voltage Drop ( $i_F = 1.0$ Amp, $T_J = 25^\circ\text{C}$ ) Figure 1	$v_F$	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

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


PACKAGE DIMENSIONS



- NOTES:
1. ALL RULES AND NOTES ASSOCIATED WITH JEDEC DO-41 OUTLINE SHALL APPLY.
  2. POLARITY DENOTED BY CATHODE BAND.
  3. LEAD DIAMETER NOT CONTROLLED WITHIN F DIMENSION.

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	4.07	5.20	0.160	0.205
B	2.04	2.71	0.080	0.107
D	0.71	0.86	0.028	0.034
F	—	1.27	—	0.050
K	27.94	—	1.100	—

CASE 59-03  
(DO-41)  
ISSUE M

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