

# Axial Lead Standard Recovery Rectifiers

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

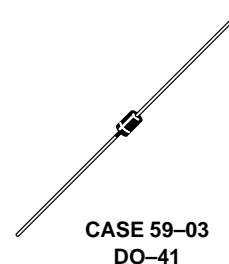
## Mechanical Characteristics

- 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<br>Working Peak Reverse Voltage<br>DC Blocking Voltage                                 | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 50               | 100    | 200    | 400    | 600    | 800    | 1000   | Volts            |
| *Non-Repetitive Peak Reverse Voltage<br>(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<br>(single phase, resistive load,<br>60 Hz, see Figure 8, $T_A = 75^\circ\text{C}$ ) | $I_O$                           | 1.0              |        |        |        |        |        |        | Amp              |
| *Non-Repetitive Peak Surge Current<br>(surge applied at rated load<br>conditions, see Figure 2)                         | $I_{FSM}$                       | 30 (for 1 cycle) |        |        |        |        |        |        | Amp              |
| Operating and Storage Junction<br>Temperature Range   | $T_J$<br>$T_{stg}$              | – 65 to +175     |        |        |        |        |        |        | $^\circ\text{C}$ |

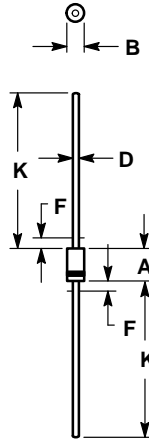
## ELECTRICAL CHARACTERISTICS\*

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