

Axial Lead Standard Recovery Rectifiers

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

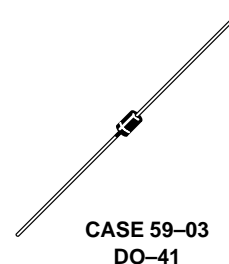
Mechanical Characteristics

- 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, $T_A = 75^\circ C$) | 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 | | | | | | | $^\circ C$ |

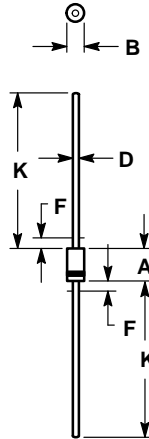
ELECTRICAL CHARACTERISTICS*

| Rating | Symbol | Typ | Max | Unit |
|--|-----------|-------------|----------|---------|
| Maximum Instantaneous Forward Voltage Drop ($i_F = 1.0$ Amp, $T_J = 25^\circ C$) Figure 1 | v_F | 0.93 | 1.1 | Volts |
| Maximum Full-Cycle Average Forward Voltage Drop ($I_O = 1.0$ Amp, $T_L = 75^\circ C$, 1 inch leads) | $V_F(AV)$ | — | 0.8 | Volts |
| Maximum Reverse Current (rated dc voltage) ($T_J = 25^\circ C$) ($T_J = 100^\circ C$) | I_R | 0.05 1.0 | 10 50 | μA |
| Maximum Full-Cycle Average Reverse Current ($I_O = 1.0$ Amp, $T_L = 75^\circ C$, 1 inch leads) | $I_R(AV)$ | — | 30 | μA |

*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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