



# 1N4933 THRU 1N4937

## 1.0 AMP. Fast Recovery Rectifiers



Voltage Range  
50 to 600 Volts  
Current  
1.0 Ampere

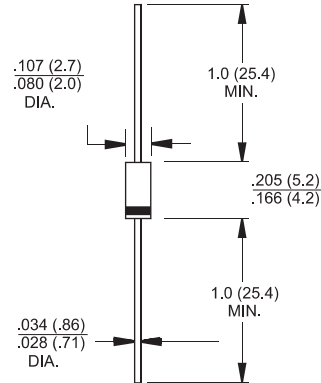
### Features

- ✧ Low forward voltage drop
- ✧ High current capability
- ✧ High reliability
- ✧ High surge current capability

### Mechanical Data

- ✧ Cases: Molded plastic
- ✧ Epoxy: UL 94V-O rate flame retardant
- ✧ Lead: Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: Color band denotes cathode end
- ✧ High temperature soldering guaranteed: 260°C/10 seconds/.375", (9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ✧ Weight: 0.34gram

### DO-41



Dimensions in inches and (millimeters)

### Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

| Type Number   | Symbol         | 1N<br>4933  | 1N<br>4934 | 1N<br>4935 | 1N<br>4936 | 1N<br>4937 | Units                          |
|---|----------------|-------------|------------|------------|------------|------------|--------------------------------|
| Maximum Recurrent Peak Reverse Voltage  | $V_{RRM}$      | 50          | 100        | 200        | 400        | 600        | V                              |
| Maximum RMS Voltage   | $V_{RMS}$      | 35          | 70         | 140        | 280        | 420        | V                              |
| Maximum DC Blocking Voltage   | $V_{DC}$       | 50          | 100        | 200        | 400        | 600        | V                              |
| Maximum Average Forward Rectified Current<br>.375 (9.5mm) Lead Length @ $T_A = 50^\circ\text{C}$              | $I_{(AV)}$     | 1.0         |            |            |            |            | A                              |
| Peak Forward Surge Current, 8.3 ms Single<br>Half Sine-wave Superimposed on Rated Load<br>(JEDEC method)      | $I_{FSM}$      | 30          |            |            |            |            | A                              |
| Maximum Instantaneous Forward Voltage<br>@ 1.0A   | $V_F$          | 1.2         |            |            |            |            | V                              |
| Maximum DC Reverse Current @ $T_A=25^\circ\text{C}$<br>at Rated DC Blocking Voltage @ $T_A=100^\circ\text{C}$ | $I_R$          | 5.0<br>100  |            |            |            |            | $\mu\text{A}$<br>$\mu\text{A}$ |
| Maximum Reverse Recovery Time ( Note 1 )  | $T_{rr}$       | 200         |            |            |            |            | nS                             |
| Typical Junction Capacitance ( Note 2 )   | $C_j$          | 10          |            |            |            |            | pF                             |
| Typical Thermal Resistance ( Note 3 )   | $R\theta_{JA}$ | 65          |            |            |            |            | $^\circ\text{C/W}$             |
| Operating Temperature Range   | $T_J$          | -65 to +150 |            |            |            |            | $^\circ\text{C}$               |
| Storage Temperature Range   | $T_{STG}$      | -65 to +150 |            |            |            |            | $^\circ\text{C}$               |

Notes: 1. Reverse Recovery Test Conditions:  $I_F=1.0\text{A}$ ,  $V_R=30\text{V}$ ,  $di/dt=50\text{A}/\mu\text{S}$ ,  $I_{rr}=10\%$  IRM for Measurement of  $t_{rr}$ .

2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.

3. Mount on Cu-Pad Size 5mm x 5mm on P.C.B.

## RATINGS AND CHARACTERISTIC CURVES (1N4933 THRU 1N4937)

FIG. 1- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

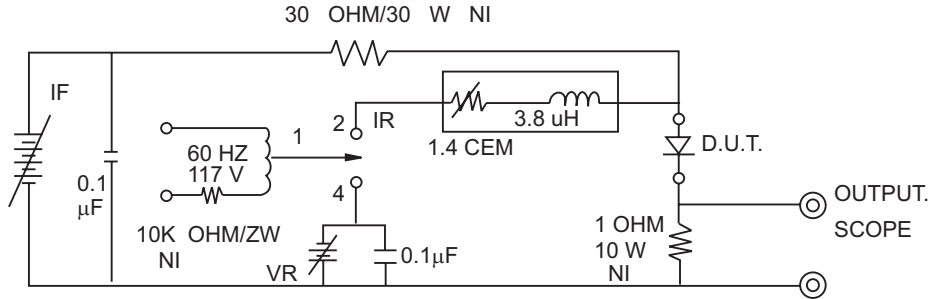


FIG. 2- MAXIMUM FORWARD CURRENT DERATING CURVE

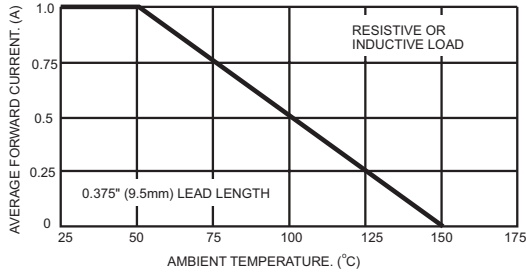


FIG. 5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

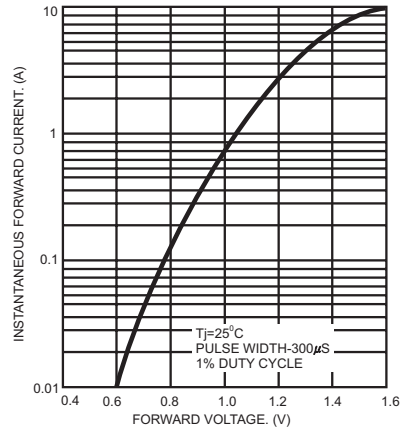


FIG. 3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

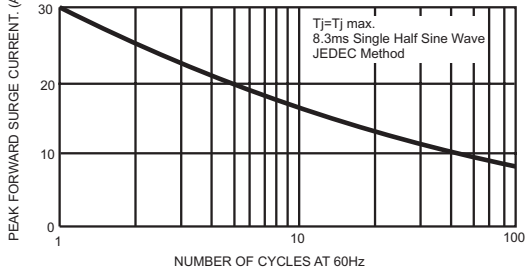


FIG. 6- TYPICAL REVERSE CHARACTERISTICS

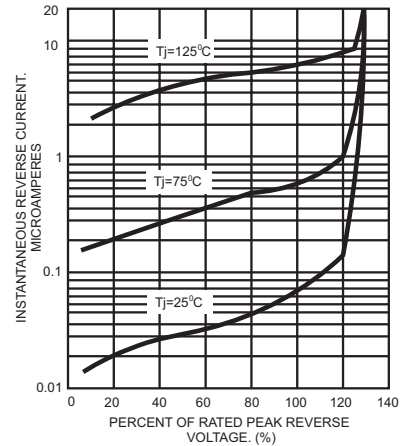


FIG. 4- TYPICAL JUNCTION CAPACITANCE

