



1N4933 THRU 1N4937

1.0 AMP. Fast Recovery Rectifiers



Voltage Range
50 to 600 Volts
Current
1.0 Ampere

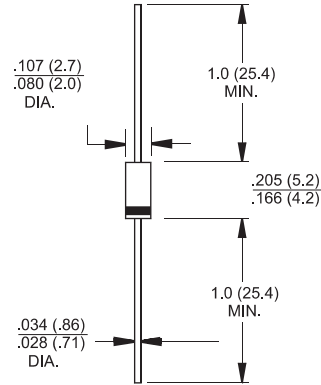
Features

- ✧ 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 | 1N4933 | 1N4934 | 1N4935 | 1N4936 | 1N4937 | 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 .375 (9.5mm) Lead Length @ $T_A = 50^\circ\text{C}$ | $I_{(AV)}$ | 1.0 | | | | | A |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | I_{FSM} | 30 | | | | | A |
| Maximum Instantaneous Forward Voltage @ 1.0A | V_F | 1.2 | | | | | V |
| Maximum DC Reverse Current @ $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A=100^\circ\text{C}$ | I_R | 5.0 100 | | | | | uA uA |
| 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: $I_F=1.0A$, $V_R=30V$, $di/dt=50A/uS$, $I_{rr}=10\%$ 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

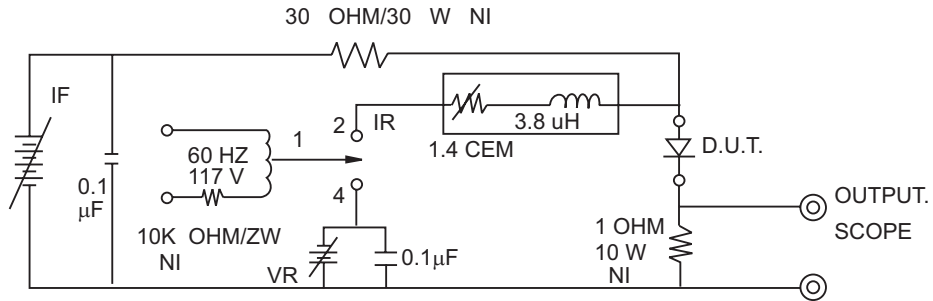


FIG.2- MAXIMUM FORWARD CURRENT DERATING CURVE

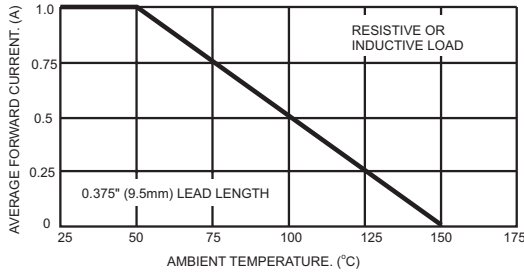


FIG.3- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

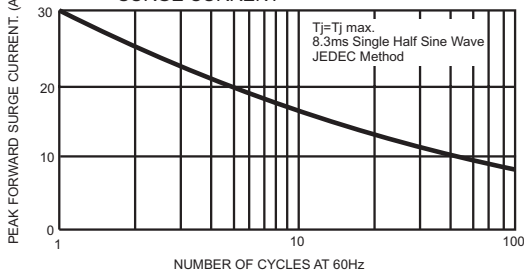


FIG.4- TYPICAL JUNCTION CAPACITANCE

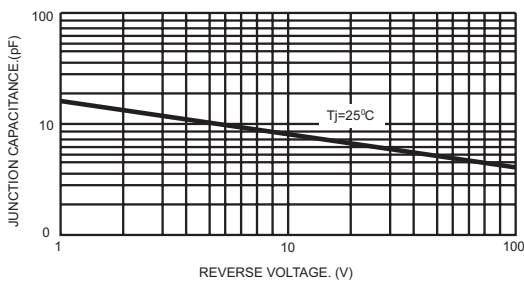


FIG.5- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

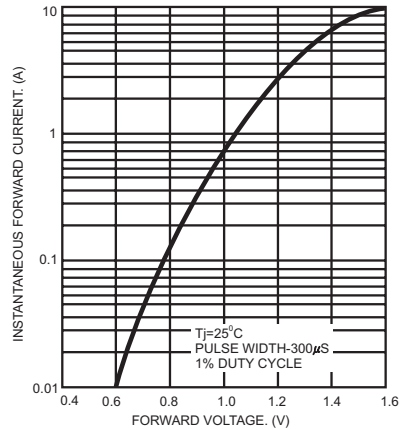


FIG.6- TYPICAL REVERSE CHARACTERISTICS

