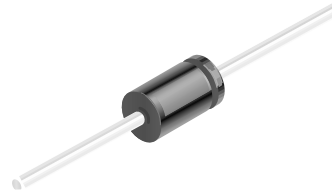


# 1N4933 - 1N4937

## Features

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



**DO-41**  
COLOR BAND DENOTES CATHODE

## Fast Rectifiers

### Absolute Maximum Ratings\*

$T_A = 25^\circ\text{C}$  unless otherwise noted

| Symbol      | Parameter                                                                           | Value       |      |      |      |      | Units            |
|-------------|-------------------------------------------------------------------------------------|-------------|------|------|------|------|------------------|
|             |                                                                                     | 4933        | 4934 | 4935 | 4936 | 4937 |                  |
| $V_{RRM}$   | Maximum Repetitive Reverse Voltage                                                  | 50          | 100  | 200  | 400  | 600  | V                |
| $I_{F(AV)}$ | Average Rectified Forward Current,<br>.375 " lead length @ $T_A = 50^\circ\text{C}$ | 1.0         |      |      |      |      | A                |
| $I_{FSM}$   | Non-repetitive Peak Forward Surge Current<br>8.3 ms Single Half-Sine-Wave           | 30          |      |      |      |      | A                |
| $T_{stg}$   | Storage Temperature Range                                                           | -50 to +150 |      |      |      |      | $^\circ\text{C}$ |
| $T_J$       | Operating Junction Temperature                                                      | -50 to +150 |      |      |      |      | $^\circ\text{C}$ |

\*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

### Thermal Characteristics

| Symbol          | Parameter                               | Value | Units              |
|-----------------|-----------------------------------------|-------|--------------------|
| $P_D$           | Power Dissipation                       | 2.5   | W                  |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient | 50    | $^\circ\text{C/W}$ |

### Electrical Characteristics

$T_A = 25^\circ\text{C}$  unless otherwise noted

| Symbol   | Parameter                                                                                 | Device     |      |      |      |      | Units                          |
|----------|-------------------------------------------------------------------------------------------|------------|------|------|------|------|--------------------------------|
|          |                                                                                           | 4933       | 4934 | 4935 | 4936 | 4937 |                                |
| $V_F$    | Forward Voltage @ 1.0 A                                                                   | 1.2        |      |      |      |      | V                              |
| $t_{tr}$ | Reverse Recovery Time<br>$I_F = 0.5\text{ A}, I_R = 1.0\text{ A}, I_{tr} = 0.25\text{ A}$ | 150        |      |      |      |      | ns                             |
| $I_R$    | Reverse Current @ rated $V_R$<br>$T_A = 25^\circ\text{C}$<br>$T_A = 125^\circ\text{C}$    | 5.0<br>100 |      |      |      |      | $\mu\text{A}$<br>$\mu\text{A}$ |
| $C_T$    | Total Capacitance<br>$V_R = 4.0\text{ V}, f = 1.0\text{ MHz}$                             | 12         |      |      |      |      | pF                             |

## Typical Characteristics

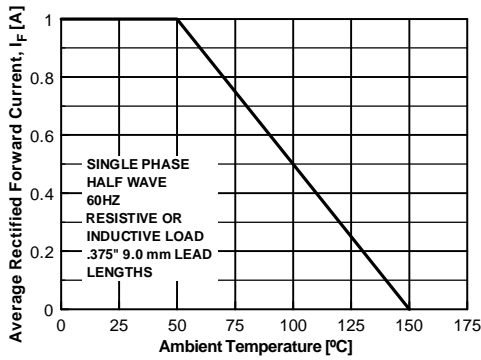


Figure 1. Forward Current Derating Curve

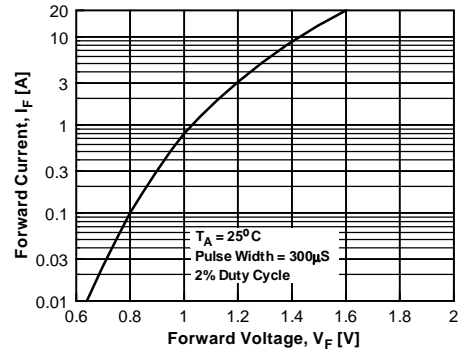


Figure 2. Forward Voltage Characteristics

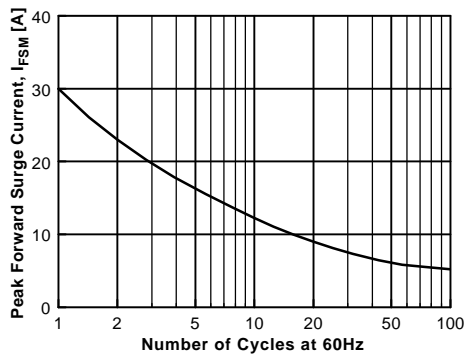


Figure 3. Non-Repetitive Surge Current

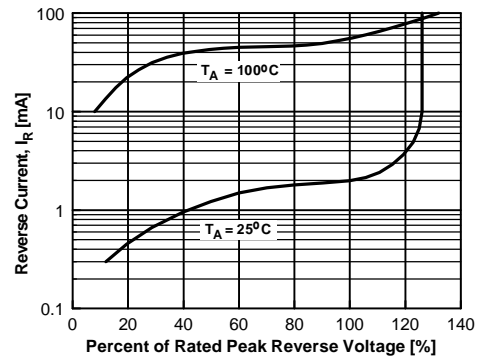


Figure 4. Reverse Current vs Reverse Voltage

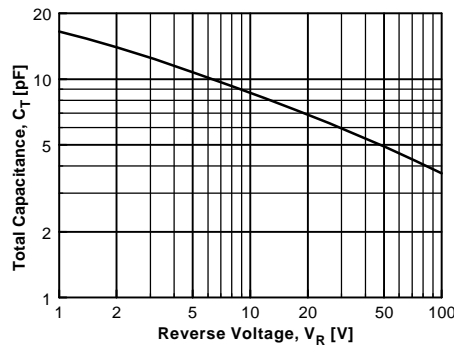
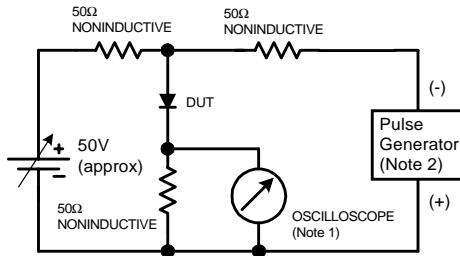
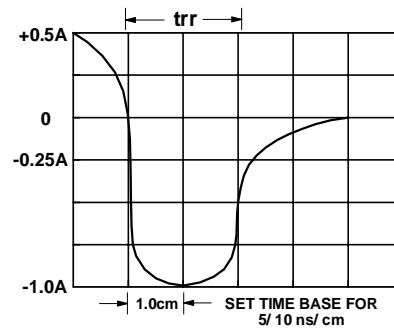


Figure 5. Total Capacitance



NOTES:

1. Rise time = 7.0 ns max; Input impedance = 1.0 megaohm 22 pf.
2. Rise time = 10 ns max; Source impedance = 50 ohms.



Reverse Recovery Time Characteristic and Test Circuit Diagram

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