

**FAST RECOVERY RECTIFIER**  
**VOLTAGE RANGE 50 to 600 Volts**  
**CURRENT 1 Ampere**

### FEATURES

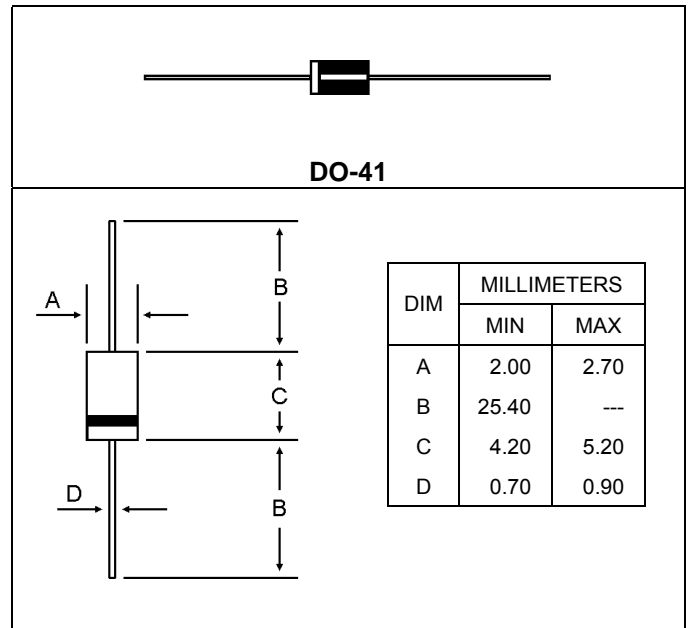
- \* Low cost construction
- \* Low reverse leakage
- \* Fast switching for high efficiency
- \* High forward surge current Capability
- \* High Temperature soldering guaranteed:  
 260°C/10 seconds, 0.375"(9.5 mm) lead length  
 at lbs (2.3kg) tension.

### MECHANICAL DATA

- \* Case : Transfer Molded Plastic
- \* Epoxy: UL94V-O rate flame retardant
- \* Terminals : Plated axial lead, Solderable Per MIL-STD-202  
 Method 208C
- \* Polarity : Color band denotes cathode end
- \* Mounting position: Any
- \* Weight : 0.012 ounce, 0.33 grams (approx)

### Plating pb free

The marking is indicated by part no. with "M".  
 ex: 1N4933M ~1N4937M



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

- \* Rating at 25 ambient temperature unless otherwise specified
- \* Single phase, half wave, 60Hz, resistive or inductive load.
- \* For capacitive load derate current by 20 %

Characteristic	Symbol	1N4933	1N4934	1N4935	1N4936	1N4937	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	50	100	200	400	600	V
RMS Reverse Voltage	$V_{R(RMS)}$	35	70	140	280	420	V
Average Rectifier Forward Current Per Leg $T_C=75$	$I_{F(AV)}$	1.0					A
Non-Repetitive Peak Surge Current (Surge applied at rate load conditions halfwave, single phase, 60Hz)	$I_{FSM}$	30					A
Maximum Instantaneous Forward Voltage ( $I_F=1.0$ Amp $T_C=25$ )	$V_F$	1.3					V
Maximum Instantaneous Reverse Current (Rated DC Voltage, $T_C=25$ ) (Rated DC Voltage, $T_C=100$ )	$I_R$	5.0 100					$\mu A$
Reverse Recovery Time (Note 3)	$T_{rr}$	200					ns
Typical Junction Capacitance (Note 1)	$C_j$	15					pF
Typical Thermal Resistance(Note 2)	$R_{\theta JA}$	50					$^{\circ}C/W$
Operating Temperature Range	$T_J$	-65 to +175					
Storage Temperature Range	$T_{stg}$	-65 to +175					

#### NOTES:

1. Measured at 1.0MHz and applied reverse voltage of 4.0 volts
2. Thermal Resistance from Junction to Ambient temperature at .375"(9.5mm) lead length, P.C. board mounted.
3. Test conditions:  $I_F=0.5$  A,  $I_R=1.0$ ,  $I_{RR}=0.25$  A

# 1N4933 Thru 1N4937

FIG-1 TYPICAL FORWARD CHARACTERISTICS

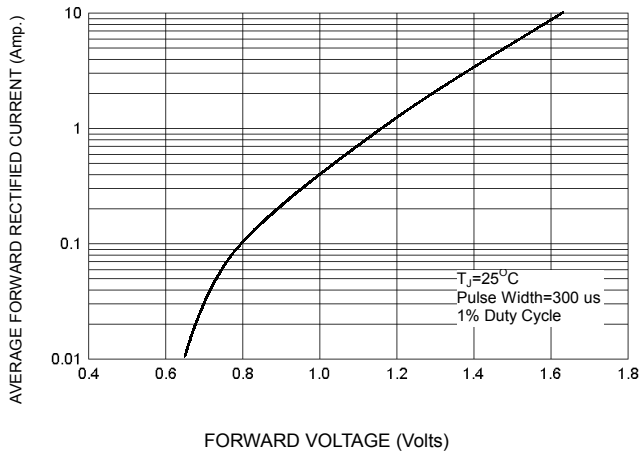


FIG-3 FORWARD CURRENT DERATING CURVE

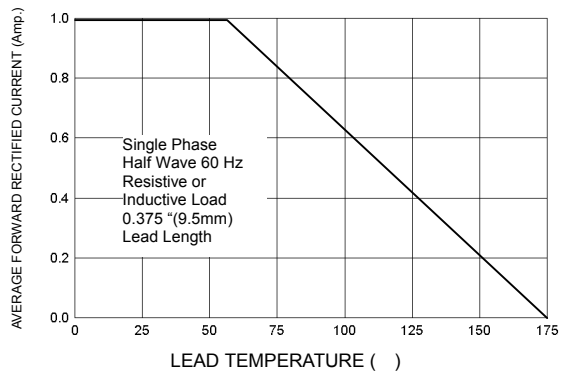


FIG-2 TYPICAL REVERSE CHARACTERISTICS

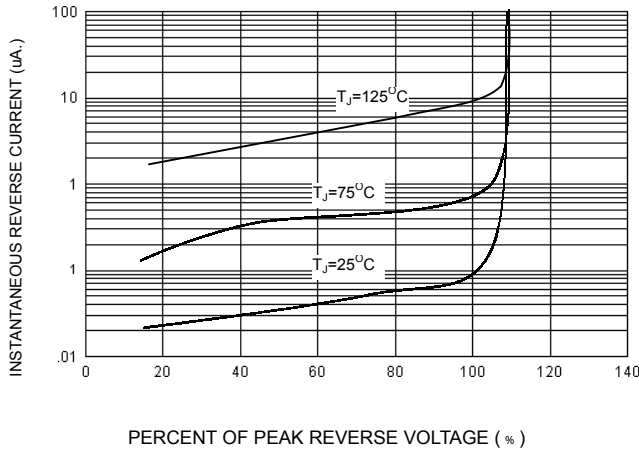


FIG-4 TYPICAL JUNCTION CAPACITANCE

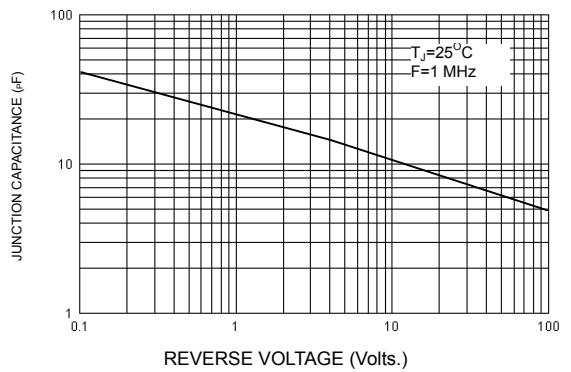
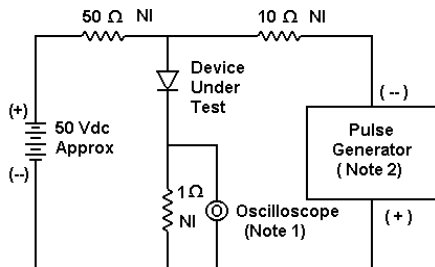
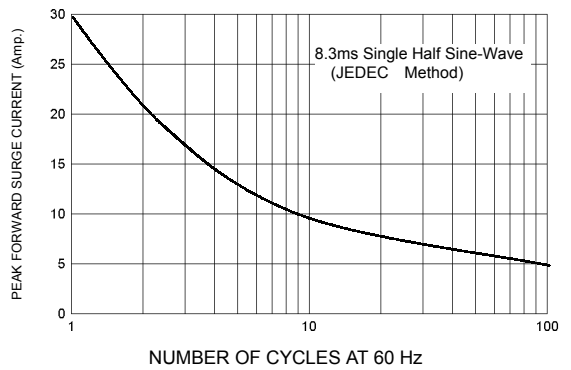
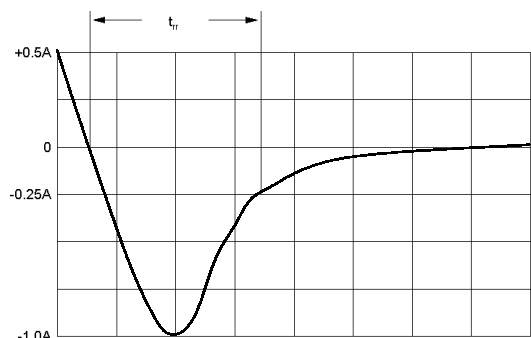


FIG-5 PEAK FORWARD SURGE CURRENT



- Notes:  
 1. Rise Time = 7 ns max. Input Impedance = 1 M  $\Omega$ , 22 pF  
 2. Rise Time = 10 ns max. Input Impedance = 50  $\Omega$



Set time base for 50/100 ns/cm

FIG-6 Reverse Recovery Time Characteristic and Test Circuit Diagram