



# FAST RECOVERY RECTIFIER

1N4933 THRU 1N4937

VOLTAGE RANGE  
CURRENT

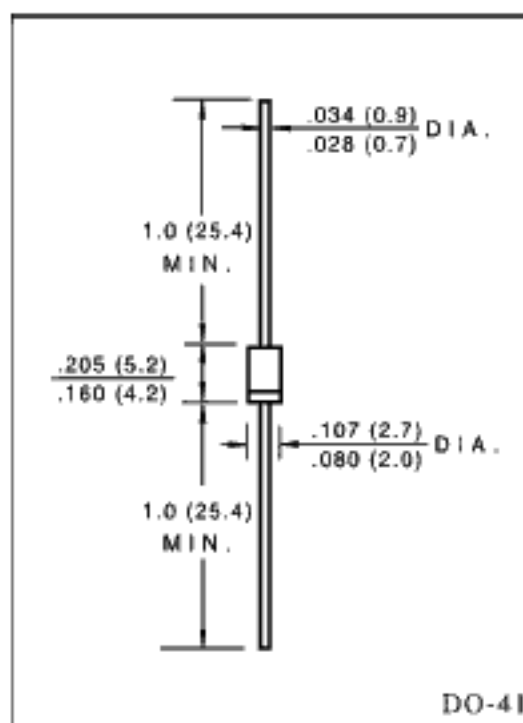
50 to 600 Volts  
1.0 Ampere

## FEATURES

- Low cost construction.
- Fast switching for high efficiency.
- Low reverse leakage
- High forward surge current capability.
- High temperature soldering guaranteed:  
260°C/10 seconds, 0.375" (9.5mm) lead length  
at 5 lbs (2.3kg) tension.

## MECHANICAL DATA

- Case: transfer molded plastic
- Epoxy: UL94V - 0 rate flame retardant.
- Polarity: Color band denotes cathode end.
- Lead: Plated axial lead, solderable per MIL - STD - 202E  
method 208C
- Mounting position: Any
- Weight: 0.012 ounce, 0.33 grams



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

	SYMBOLS	1N4933	1N4934	1N4935	1N4936	1N4937	UNIT
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	Volts
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	Volts
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	Volts
Maximum Average Forward Rectified Current, 0.375" (9.5mm) lead length at $T_A=75^\circ\text{C}$	$I_{(AV)}$	1.0					Amp
Peak Forward Surge Current 8.3ms single half sine - wave superimposed on rated load (JEDEC method)	$I_{FSM}$	30					Amps
Maximum Instantaneous Forward Voltage at 1.0A	$V_F$	1.2					Volts
Maximum DC Reverse Current at rated DC blocking voltage	$I_R$	$T_A=25^\circ\text{C}$					$\mu\text{A}$
		$T_A=100^\circ\text{C}$					
Maximum Reverse Recovery Time (Note 3) $T_J=25^\circ\text{C}$	$t_{rr}$	200					nS
Maximum Reverse Recovery Current (Note 3)	$I_{RM(REC)}$	2.0					Amps
Typical Junction Capacitance (Note 1)	$C_J$	15					pF
Typical Thermal Resistance (Note2)	$R_{\theta JA}$	50					$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	$T_J$	(-65 to +150)					$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	(-65 to +150)					$^\circ\text{C}$

## NOTES:

1. Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts.
2. Thermal Resistance from Junction to Ambient at 0.375" (9.5mm) lead length, P.C. board mounted.
3. Reverse Recovery Test Condition:  $I_F=1.0\text{A}$ ,  $V_R=30\text{V}$ ,  $dI/dt=50\text{A}/\mu\text{s}$ ,  $I_{RR}=1.0\% I_{FM}$  for the measurement of  $t_{rr}$ .

# RATINGS AND CHARACTERISTIC CURVES IN4933 THRU IN4937

FIG. 1-TYPICAL FORWARD CURRENT DERATING CURVE

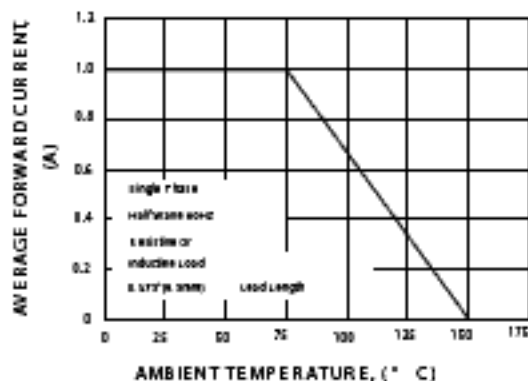


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

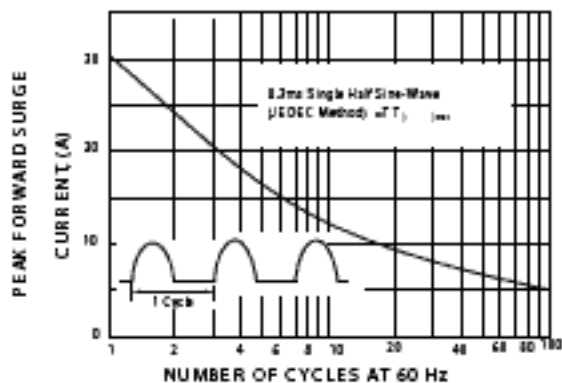


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

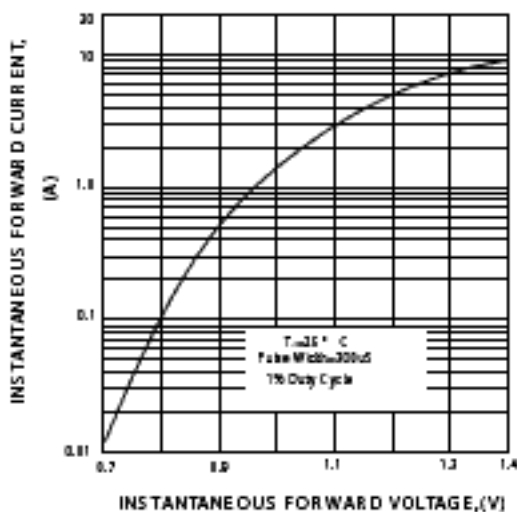


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

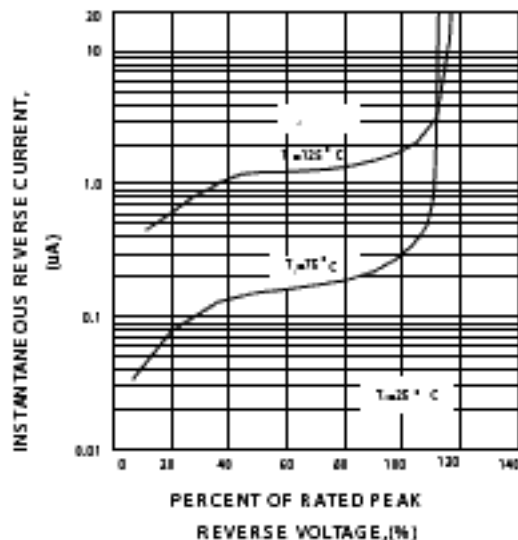


FIG. 5-TYPICAL JUNCTION CAPACITANCE

