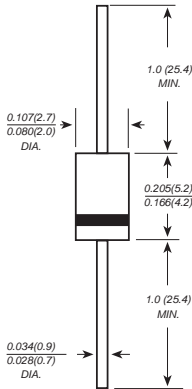# 1N4933 THRU 1N4937

FAST RECOVERY RECTIFIERS

Reverse Voltage - *50 to 600 Volts*   Forward Current - *1.0 Ampere*

DO-41

Dimensions in inches and (millimeters)

0.107(2.7) / 0.080(2.0) DIA.

1.0 (25.4) MIN.

0.205(5.2) / 0.166(4.2)

1.0 (25.4) MIN.

0.034(0.9) / 0.028(0.7) DIA.

FEATURES

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Fast switching for high efficiency
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed:
- $250^{\circ}C$/10 seconds,0.375"(9.5mm) lead length, 5 lbs. (2.3kg) tension

MECHANICAL DATA

Case: DO-41 molded plastic body
Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
Polarity: Color band denotes cathode end
Mounting Position: Any
Weight:0.27 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

	SYMBOLS	1N 4933	1N 4934	1N 4935	1N 4936	1N 4937	UNITS
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℃	$I_{(AV)}$	1.0					Amp
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30.0					Amps
Maximum instantaneous forward voltage at 1.0A	V_F	1.2					Volts
Maximum DC reverse current T$_A$=25℃ at rated DC blocking voltage T$_A$=100℃	I_R	5.0 50.0					mA
Maximum reverse recovery time (NOTE 1)	t_{rr}	200					ns
Typical junction capacitance (NOTE 2)	C_J	15.0					pF
Typical thermal resistance (NOTE 3)	R_{qJA}	50.0					°C/W
Operating junction and storage temperature range	T_J, T_{STG}	-65 to +150					°C

Note:1.Reverse recovery condition I$_F$=0.5A,I$_R$=1.0A,Irr=0.25A
     2.Measured at 1MHz and applied reverse voltage of 4.0V D.C.
     3.Thermal resistance from junction to ambient at 0.375"(9.5mm)lead length,P.C.B. mounted

FIG. 1- FORWARD CURRENT DERATING CURVE

AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

Single Phase
Half Wave 60Hz
Resistive or
inductive Load

AMBIENT TEMPERATURE, °C

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

£PEAK FORWARD SURGE CURRENT, AMPERES

8.3ms SINGLE HALF SINE-WAVE
(JEDEC Method)

NUMBER OF CYCLES AT 60 Hz

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

INSTANTANEOUS FORWARD CURRENT,AMPERES

$T_J=25°C$
PULSE WIDTH=300 ms
1%DUTY CYCLE

INSTANTANEOUS FORWARD VOLEAGE, VOLTS

FIG. 4-TYPICAL REVERSE CHARACTERISTICS

INSTANTANEOUS REVERSE CURRENT, MICROAMPERES

$TJ=100°C$

$TJ=25°C$

PERCENT OF PEAK REVERSE VOLTAGE,%

FIG. 5-TYPICAL JUNCTION CAPACITANCE

JUNCTION CAPACITANCE, pF

$T_J=25°C$

REVERSE VOLTAGE,VOLTS

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

TRANSIENT THERMAL IMPEDANCE, °C/W

t,PULSE DURATION,sec.