

# 1N4933, 1N4934, 1N4935, 1N4936, 1N4937

1N4935 and 1N4937 are Preferred Devices

## Axial-Lead Fast-Recovery Rectifiers

Axial-lead, fast-recovery rectifiers are designed for special applications such as dc power supplies, inverters, converters, ultrasonic systems, choppers, low RF interference and free wheeling diodes. A complete line of fast recovery rectifiers having typical recovery time of 150 nanoseconds providing high efficiency at frequencies to 250 kHz.

### Mechanical Characteristics

- Case: Epoxy, Molded
- Weight: 0.4 gram (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead and Mounting Surface Temperature for Soldering Purposes: 220°C Max. for 10 Seconds, 1/16" from case
- Shipped in plastic bags, 1000 per bag.
- Available Tape and Reeled, 5000 per reel, by adding a "RL" suffix to the part number
- Polarity: Cathode Indicated by Polarity Band
- Marking: 1N4933, 1N4934, 1N4935, 1N4936, 1N4937

### MAXIMUM RATINGS

Please See the Table on the Following Page



**ON Semiconductor®**

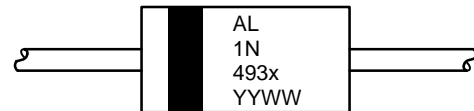
<http://onsemi.com>

**FAST RECOVERY  
RECTIFIERS  
1.0 AMPERE  
50-600 VOLTS**



**CASE 59-10  
AXIAL LEAD  
PLASTIC**

### MARKING DIAGRAM



AL = Assembly Location  
1N493x = Device Number  
x = 3, 4, 5, 6 or 7  
YY = Year  
WW = Work Week

### ORDERING INFORMATION

Device	Package	Shipping
1N4933	Axial Lead	1000 Units/Bag
1N4933RL	Axial Lead	5000/Tape & Reel
1N4934	Axial Lead	1000 Units/Bag
1N4934RL	Axial Lead	5000/Tape & Reel
1N4935	Axial Lead	1000 Units/Bag
1N4935RL	Axial Lead	5000/Tape & Reel
1N4936	Axial Lead	1000 Units/Bag
1N4936RL	Axial Lead	5000/Tape & Reel
1N4937	Axial Lead	1000 Units/Bag
1N4937RL	Axial Lead	5000/Tape & Reel

**Preferred** devices are recommended choices for future use and best overall value.

# 1N4933, 1N4934, 1N4935, 1N4936, 1N4937

## MAXIMUM RATINGS (Note 1)

Rating	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	Volts
*Non-Repetitive Peak Reverse Voltage RMS Reverse Voltage	$V_{RSM}$ $V_{R(RMS)}$	75 35	150 70	250 140	450 280	650 420	Volts
*Average Rectified Forward Current (Single phase, resistive load, $T_A = 75^\circ\text{C}$ ) (Note 2)	$I_O$	1.0					Amp
*Non-Repetitive Peak Surge Current (Surge applied at rated load conditions)	$I_{FSM}$	30					Amps
Operating Junction Temperature Range Storage Temperature Range	$T_J$ $T_{stg}$	- 65 to +150 - 65 to +150					$^\circ\text{C}$

## THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Ambient (Typical Printed Circuit Board Mounting)	$R_{\theta JC}$	65	$^\circ\text{C/W}$

## ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Min	Typ	Max	Unit
Instantaneous Forward Voltage ( $I_F = 3.14$ Amp, $T_J = 125^\circ\text{C}$ )	$V_F$	-	1.0	1.2	Volts
Forward Voltage ( $I_F = 1.0$ Amp, $T_A = 25^\circ\text{C}$ )	$V_F$	-	1.0	1.1	Volts
*Reverse Current (Rated dc Voltage) $T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$	$I_R$	- -	1.0 50	5.0 100	$\mu\text{A}$

## \*REVERSE RECOVERY CHARACTERISTICS

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Recovery Time ( $I_F = 1.0$ Amp to $V_R = 30$ Vdc) ( $I_{FM} = 15$ Amp, $di/dt = 10$ A/ $\mu\text{s}$ )	$t_{rr}$	- -	150 175	200 300	ns
Reverse Recovery Current ( $I_F = 1.0$ Amp to $V_R = 30$ Vdc)	$I_{RM(REC)}$	-	1.0	2.0	Amp

1. Ratings at  $25^\circ\text{C}$  ambient temperature unless otherwise specified.

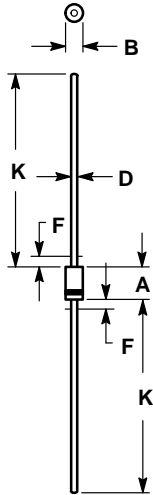
2. Derate by 20% for capacitive loads.

\*Indicates JEDEC Registered Data for 1N4933 Series.

# 1N4933, 1N4934, 1N4935, 1N4936, 1N4937

## PACKAGE DIMENSIONS

### AXIAL LEAD CASE 59-10 ISSUE S



#### NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. 59-04 OBSOLETE, NEW STANDARD 59-09.
4. 59-03 OBSOLETE, NEW STANDARD 59-10.
5. ALL RULES AND NOTES ASSOCIATED WITH JEDEC DO-41 OUTLINE SHALL APPLY
6. POLARITY DENOTED BY CATHODE BAND.
7. LEAD DIAMETER NOT CONTROLLED WITHIN F DIMENSION.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.161	0.205	4.10	5.20
B	0.079	0.106	2.00	2.70
D	0.028	0.034	0.71	0.86
F	---	0.050	---	1.27
K	1.000	---	25.40	---

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