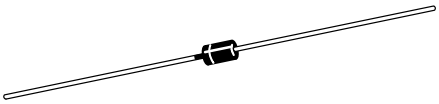
1N4937

Axial-Lead Fast-Recovery Rectifier

FAST RECOVERY RECTIFIER
1.0 AMPERE
600 VOLTS

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: 1N4937

MAXIMUM RATINGS (Note 1)

Rating	Symbol	1N4937	Unit
*Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	600	Volts
*Non-Repetitive Peak Reverse Voltage RMS Reverse Voltage	V_{RSM} $V_{R(RMS)}$	650 420	Volts
*Average Rectified Forward Current (Single phase, resistive load, T_A = 75°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	°C

THERMAL CHARACTERISTICS

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

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Min	Typ	Max	Unit
Instantaneous Forward Voltage (I_F = 3.14 Amp, T_J = 125°C)	v_F	-	1.0	1.2	Volts
Forward Voltage (I_F = 1.0 Amp, T_A = 25°C)	V_F	-	1.0	1.1	Volts
*Reverse Current (Rated dc Voltage) T_A = 25°C T_A = 100°C	I_R	- -	1.0 50	5.0 100	µA

***REVERSE RECOVERY CHARACTERISTICS**

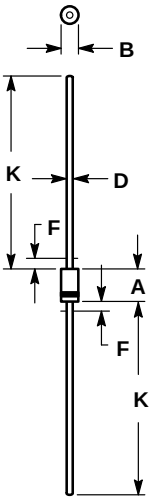
Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Recovery Time (I_F = 1.0 Amp to V_R = 30 Vdc) (I_{FM} = 15 Amp, di/dt = 10 A/µs)	t_{rr}	 - -	 150 175	 200 300	ns
Reverse Recovery Current (I_F = 1.0 Amp to V_R = 30 Vdc)	$I_{RM(REC)}$	-	1.0	2.0	Amp

1. Ratings at 25°C ambient temperature unless otherwise specified.
2. Derate by 20% for capacitive loads.

*Indicates JEDEC Registered Data for 1N4933 Series.

PACKAGE DIMENSIONS

AXIAL LEAD



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.

	INCHES		MILLIMETERS	
DIM	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	---