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 (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	VRSM VR(RMS)	75 35	150 70	250 140	450 280	650 420	Volts
*Average Rectified Forward Current (Single phase, resistive load, $T_A = 75^{\circ}C$) (2)	IO	1.0				Amp	
*Non–Repetitive Peak Surge Current (Surge applied at rated load conditions)	IFSM	30				Amps	
Operating Junction Temperature Range Storage Temperature Range	Tj 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 _θ JC	65	°C/W

* Indicates JEDEC Registered Data for 1N4933 Series.

(1) Ratings at 25°C ambient temperature unless otherwise specified.

(2) Derate by 20% for capacitive loads.

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



1N4933 thru 1N4937

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Min	Тур	Max	Unit
Instantaneous Forward Voltage ($I_F = 3.14 \text{ Amp}, T_J = 125^{\circ}C$)	٧F	_	1.0	1.2	Volts
Forward Voltage ($I_F = 1.0 \text{ Amp}, T_A = 25^{\circ}C$)	V _F	_	1.0	1.1	Volts
*Reverse Current (Rated dc Voltage) $T_A = 25^{\circ}C$ $T_A = 100^{\circ}C$	I _R		1.0 50	5.0 100	μA
REVERSE RECOVERY CHARACTERISTICS	·			•	
Characteristic	Symbol	Min	Тур	Max	Unit
Reverse Recovery Time (IF = 1.0 Amp to V_R = 30 Vdc) (IFM = 15 Amp, di/dt = 10 A/ μ s)	t _{rr}	_	150 175	200 300	ns
Reverse Recovery Current (I _F = 1.0 Amp to V _R = 30 Vdc)	IRM(REC)	_	1.0	2.0	Amp

* Indicates JEDEC Registered Data for 1N4933 Series.

PACKAGE DIMENSIONS



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