# 1N5400 thru 1N5408

1N5404 and 1N5406 are Preferred Devices

# Axial-Lead Standard Recovery Rectifiers

Lead mounted standard recovery rectifiers are designed for use in power supplies and other applications having need of a device with the following features:

- High Current to Small Size
- High Surge Current Capability
- Low Forward Voltage Drop
- Void–Free Economical Plastic Package
- Available in Volume Quantities
- Plastic Meets UL 94V–0 for Flammability

## **Mechanical Characteristics**

- Case: Epoxy, Molded
- Weight: 1.1 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
- Polarity: Cathode Indicated by Polarity Band
- Marking: 1N5400, 1N5401, 1N5402, 1N5404, 1N5406, 1N5407, 1N5408

# MAXIMUM RATINGS

Please See the Table on the Following Page



# **ON Semiconductor**<sup>™</sup>

http://onsemi.com

STANDARD RECOVERY RECTIFIERS 50–1000 VOLTS 3.0 AMPERES

AXIAL LEAD CASE 267–05 STYLE 1

## MARKING DIAGRAM



WW = Work Week

### **ORDERING INFORMATION**

Device	Package	Shipping		
1N5400	Axial Lead	500 Units/Box		
1N5400RL	Axial Lead	1200/Tape & Reel		
1N5401	Axial Lead	500 Units/Box		
1N5401RL	Axial Lead	1200/Tape & Reel		
1N5402	Axial Lead	500 Units/Box		
1N5402RL	Axial Lead	1200/Tape & Reel		
1N5404	Axial Lead	500 Units/Box		
1N5404RL	Axial Lead	1200/Tape & Reel		
1N5406	Axial Lead	500 Units/Box		
1N5406RL	Axial Lead	1200/Tape & Reel		
1N5407	Axial Lead	500 Units/Box		
1N5407RL	Axial Lead	1200/Tape & Reel		
1N5408	Axial Lead	500 Units/Box		
1N5408RL	Axial Lead 1200/Tape & F			

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

# 1N5400 thru 1N5408

#### MAXIMUM RATINGS

Rating	Symbol	1N5400	1N5401	1N5402	1N5404	1N5406	1N5407	1N5408	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	50	100	200	400	600	800	1000	Volts
Non-repetitive Peak Reverse Voltage	V <sub>RSM</sub>	100	200	300	525	800	1000	1200	Volts
Average Rectified Forward Current (Single Phase Resistive Load, $1/2''$ Leads, $T_L = 105^{\circ}C$ )	IO	3.0						Amp	
Non–repetitive Peak Surge Current (Surge Applied at Rated Load Conditions)	I <sub>FSM</sub>	200 (one cycle)					Amp		
Operating and Storage Junction Temperature Range	T <sub>J</sub> T <sub>stg</sub>	– 65 to +170 – 65 to +175					°C		

#### THERMAL CHARACTERISTICS

Characteristic		Тур	Unit
Thermal Resistance, Junction to Ambient (PC Board Mount, 1/2" Leads)	$R_{\thetaJA}$	53	°C/W

#### **ELECTRICAL CHARACTERISTICS**

Characteristic	Symbol	Min	Тур	Max	Unit
Forward Voltage (I <sub>F</sub> = 3.0 Amp, $T_A = 25^{\circ}C$ )	٧ <sub>F</sub>	-	-	1.0	Volts
Reverse Current (Rated dc Voltage) $T_A = 25^{\circ}C$	I <sub>R</sub>	-	-	10	μΑ
$T_A = 150^{\circ}C$		-	-	100	

Ratings at 25°C ambient temperature unless otherwise specified.

60 Hz resistive or inductive loads.

For capacitive load, derate current by 20%.

#### NOTE 1 — AMBIENT MOUNTING DATA

Data shown for thermal resistance junction–to–ambient ( $R_{\theta JA}$ ) for the mountings shown is to be used as typical guideline values for preliminary engineering or in case the tie point temperature cannot be measured.

TYPICAL VALUES FOR $R_{\theta JA}$ IN STILL	AIR
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Moun	ting	Lead Length, L (IN)				$R_{\theta JA}$	
Meth	od	1/8	1/4	1/2	3/4		
1		50	51	53	55	°C/W	
2		58	59	61	63	°C/W	
3		28				°C/W	



# 1N5400 thru 1N5408



Figure 4. Current Derating PC Board Mounting

#### PACKAGE DIMENSIONS

AXIAL LEAD CASE 267–05 ISSUE G



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI
Y14.5M, 1982.

2. CONTROLLING DIMENSION: INCH.

	INCHES		MILLIN	ETERS	
DIM	MIN MAX		MIN	MAX	
Α	0.287	0.374	7.30	9.50	
В	0.189	0.209	4.80	5.30	
D	0.047	0.051	1.20	1.30	
K	1.000		25.40		

STYLE 1: PIN 1. CATHODE (POLARITY BAND) 2. ANODE

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JAPAN: ON Semiconductor, Japan Customer Focus Center 4–32–1 Nishi–Gotanda, Shinagawa–ku, Tokyo, Japan 141–0031 Phone: 81–3–5740–2700 Email: r14525@onsemi.com

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