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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:

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 94 V−0 for Flammability
- These are Pb−Free Devices

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: 260°C Max. for 10 Seconds
- Polarity: Cathode Indicated by Polarity Band

*For additional information on our Pb−Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

ON Semiconductor®

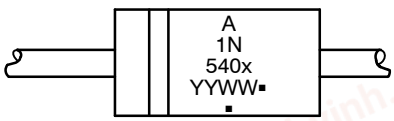
http://onsemi.com

STANDARD RECOVERY RECTIFIERS
50−1000 VOLTS
3.0 AMPERES



AXIAL LEAD
CASE 267−05
STYLE 1

MARKING DIAGRAM



A = Assembly Location
1N540x = Device Number
x = 0, 1, 2, 4, 6, 7 or 8
YY = Year
WW = Work Week
▪ = Pb−Free Package

(Note: Microdot may be in either location)

ORDERING INFORMATION

See detailed ordering and shipping information on page 5 of this data sheet.

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

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MAXIMUM RATINGS

Rating	Symbol	1N5400	1N5401	1N5402	1N5404	1N5406	1N5407	1N5408	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	50	100	200	400	600	800	1000	V
Non−repetitive Peak Reverse Voltage	V_{RSM}	100	200	300	525	800	1000	1200	V
Average Rectified Forward Current (Single Phase Resistive Load, 1/2 in. Leads, T_L = 105°C)	I_O	3.0							A
Non−repetitive Peak Surge Current (8 ms Single Half−Sine−Wave)	I_{FSM}	200 (one cycle)							A
Operating and Storage Junction Temperature Range	T_J T_{stg}	− 65 to +150 − 65 to +175							°C

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

THERMAL CHARACTERISTICS

Characteristic	Symbol	Typ	Unit
Thermal Resistance, Junction−to−Ambient (PC Board Mount, 1/2 in. Leads)	$R_{\theta JA}$	53	°C/W

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Min	Typ	Max	Unit
Forward Voltage (I_F = 3.0 A, T_A = 25°C)	v_F	−	−	1.0	V
Reverse Current (Rated DC Voltage) T_A = 25°C T_A = 100°C	I_R	 − −	 − −	 10 50	μA

Ratings at 25°C ambient temperature unless otherwise specified.
60 Hz resistive or inductive loads.
For capacitive load, derate current by 20%.

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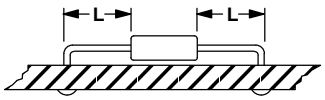
NOTE 1 — AMBIENT MOUNTING DATA

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.

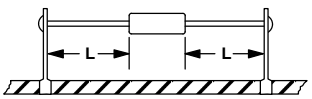
TYPICAL VALUES FOR $R_{\theta JA}$ IN STILL AIR

Mounting Method	Lead Length, L (IN)				$R_{\theta JA}$
	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

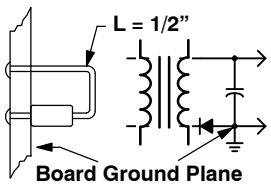
MOUNTING METHOD 1
P.C. Board Where Available
Copper Surface area is small



MOUNTING METHOD 2
Vector Push−In Terminals T−28



MOUNTING METHOD 3
P.C. Board with
1−1/2” x 1−1/2”
Copper Surface



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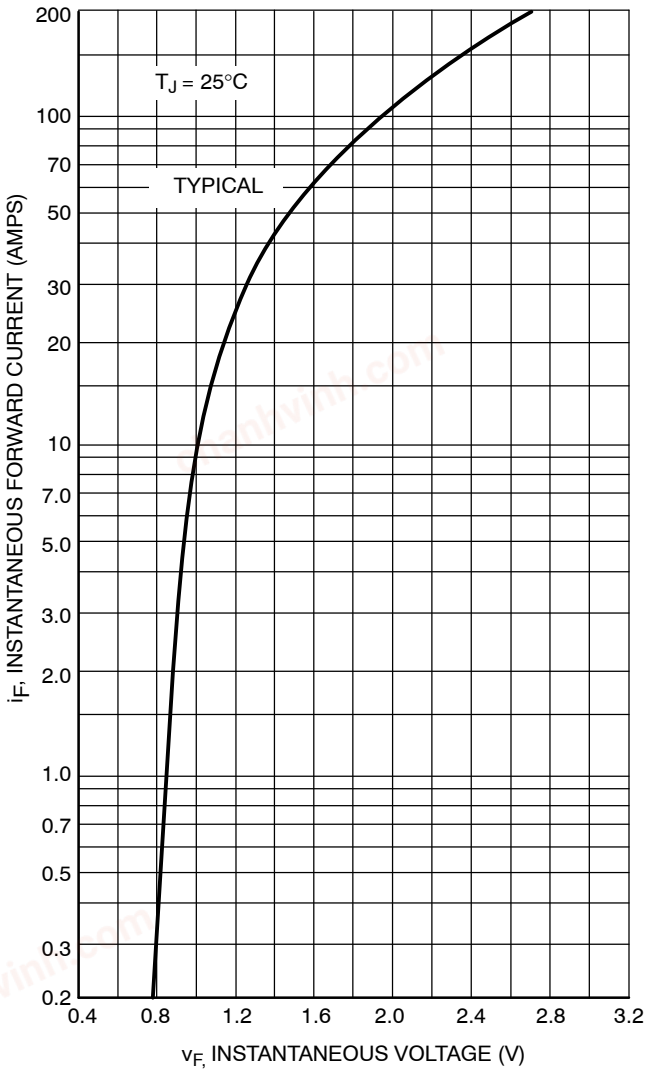


Figure 1. Forward Voltage

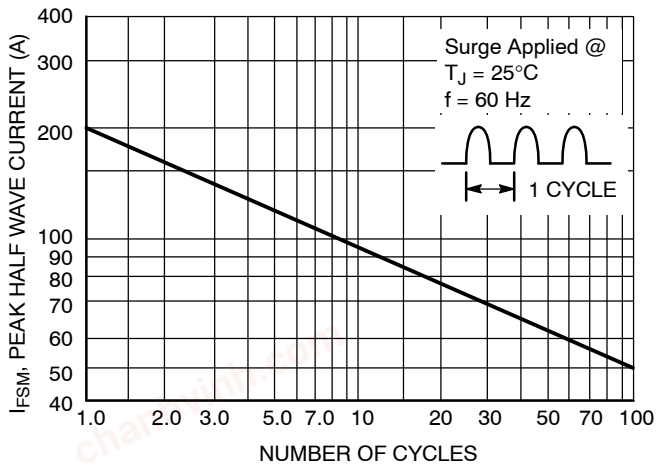


Figure 2. Maximum Nonrepetitive Surge Current

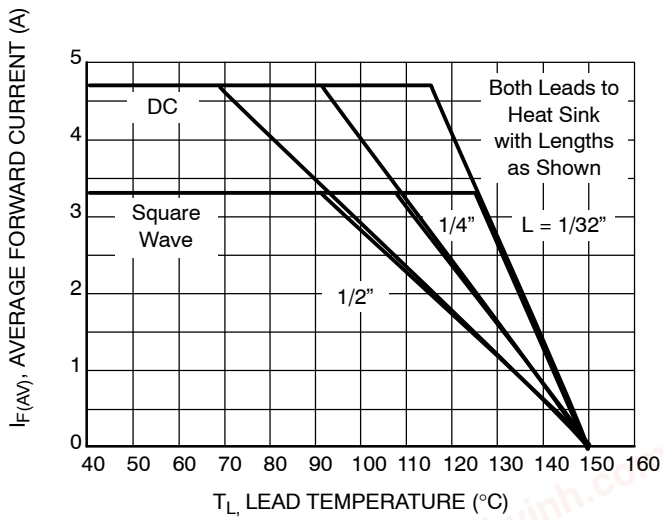


Figure 3. Maximum Current Derating, Lead, Various Lengths

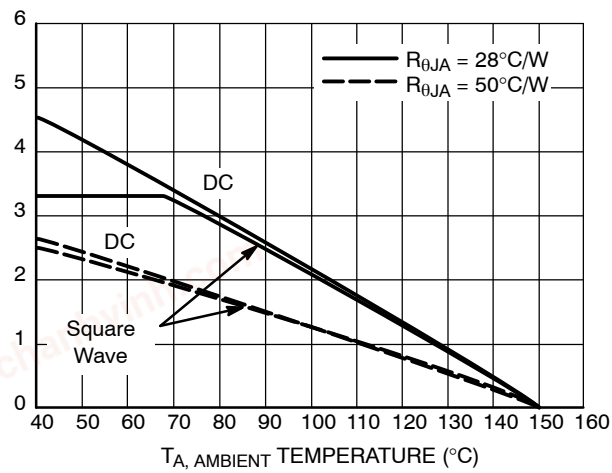


Figure 4. Maximum Current Derating, Ambient, PC Board Mounting

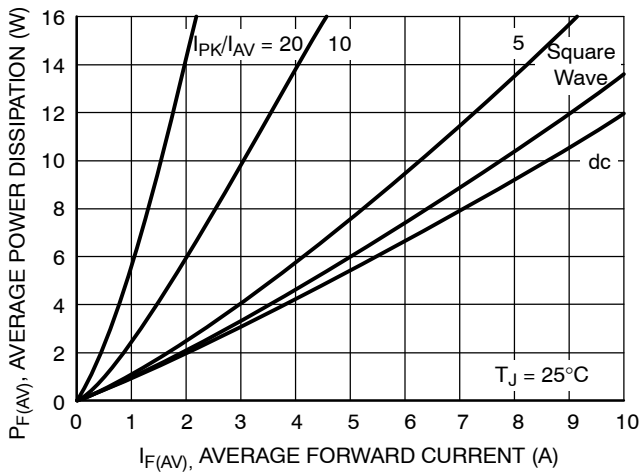


Figure 5. Forward Power Dissipation

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ORDERING INFORMATION

Device	Package	Shipping†
1N5400G	Axial Lead*	500 Units/Box
1N5400RLG	Axial Lead*	1200/Tape & Reel
1N5401G	Axial Lead*	500 Units/Box
1N5401RLG	Axial Lead*	1200/Tape & Reel
1N5402G	Axial Lead*	500 Units/Box
1N5402RLG	Axial Lead*	1200/Tape & Reel
1N5404G	Axial Lead*	500 Units/Box
1N5404RLG	Axial Lead*	1200/Tape & Reel
1N5406G	Axial Lead*	500 Units/Box
1N5406RLG	Axial Lead*	1200/Tape & Reel
1N5407G	Axial Lead*	500 Units/Box
1N5407RLG	Axial Lead*	1200/Tape & Reel
1N5408G	Axial Lead*	500 Units/Box
1N5408RLG	Axial Lead*	1200/Tape & Reel

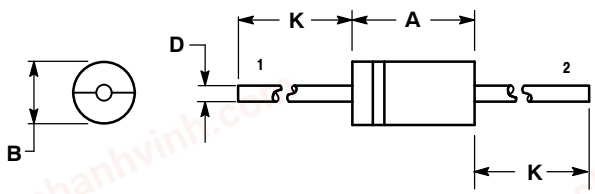
†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.
*This package is inherently Pb−Free.

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1N5400 thru 1N5408

PACKAGE DIMENSIONS

AXIAL LEAD
CASE 267−05
ISSUE G



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

	INCHES		MILLIMETERS	
DIM	MIN	MAX	MIN	MAX
A	0.287	0.374	7.30	9.50
B	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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