www.vishay.com

# 1N5624GP, 1N5625GP, 1N5626GP, 1N5627GP

Vishay General Semiconductor

RoHS

COMPLIANT

# **Glass Passivated Junction Plastic Rectifier**



PRIMARY CHARACTERISTICS						
I <sub>F(AV)</sub>	3.0 A					
V <sub>RRM</sub>	200 V, 400 V, 600 V, 800 V					
I <sub>FSM</sub>	125 A					
I <sub>R</sub>	5.0 µA					
V <sub>F</sub>	0.95 V					
T <sub>J</sub> max.	175 °C					
Package	DO-201AD					
Diode variations	Single die					

### FEATURES

- Superectifier structure for high reliability
  application
- Cavity-free glass-passivated junction
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>

### **TYPICAL APPLICATIONS**

For use in general purpose rectification of power supplies, inverters, converters, and freewheeling diodes application.

### **MECHANICAL DATA**

**Case:** DO-201AD, molded epoxy over glass body Molding compound meets UL 94 V-0 flammability rating Base P/N-E3 - RoHS-compliant, commercial grade

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 1A whisker test

Polarity: Color band denotes cathode end

<b>MAXIMUM RATINGS</b> (T <sub>A</sub> = 25 °C unless otherwise noted) <sup>(1)</sup>							
PARAMETER	SYMBOL	1N5624GP	1N5625GP	1N5626GP	1N5627GP	UNIT	
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	200	400	600	800	V	
Maximum DC blocking voltage	V <sub>DC</sub>	200	400	600	800	V	
Maximum average forward rectified current 0.375" (9.5 mm) lead length at $T_A = 70 ^{\circ}\text{C}$	I <sub>F(AV)</sub>		А				
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	125				А	
Maximum full load reverse current, full cycle average $0.375$ " (9.5 mm) lead length at T <sub>A</sub> = 70 °C	I <sub>R(AV)</sub>	200				μA	
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +175				°C	

#### Note

(1) JEDEC<sup>®</sup> registered values



## Vishav

## Vishay General Semiconductor

<b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25 \text{ °C}$ unless otherwise noted)								
PARAMETER	TEST CONDITIONS		SYMBOL	1N5624GP	1N5625GP	1N5626GP	1N5627GP	UNIT
Maximum instantaneous forward voltage	3.0 A	$T_A = 25 ^{\circ}C$			1	.0		V
	T <sub>A</sub> = 70 °C		V <sub>F</sub> <sup>(1)(2)</sup>	0.95				v
Maximum DC reverse current		T <sub>A</sub> = 25 °C	- I <sub>B</sub>	5.0			μA	
at rated DC blocking voltage		T <sub>A</sub> = 150 °C		30	300 200		00	μΑ
Typical reverse recovery time	I <sub>F</sub> = 0.5 I <sub>rr</sub> = 0.2	A, I <sub>R</sub> = 1.0 A, 5 A	t <sub>rr</sub>	3.0			μs	
Typical junction capacitance	4.0 V, 1	MHz	CJ	40			pF	

#### Notes

<sup>(1)</sup> Pulse test: 300 µs pulse width, 1 % duty cycle

(2) JEDEC registered values

<b>THERMAL CHARACTERISTICS</b> ( $T_A = 25 \text{ °C}$ unless otherwise noted)							
PARAMETER	SYMBOL	1N5624GP	1N5625GP	1N5626GP	1N5627GP	UNIT	
Typical thermal resistance	$R_{\theta JA}$ <sup>(1)</sup>	20				°C/W	

#### Note

<sup>(1)</sup> Thermal resistance from junction to ambient and from junction to lead at 0.375" (9.5 mm) lead length, PCB mounted

ORDERING INFORMATION (Example)							
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE			
1N5626GP-E3/54	1.28	54	1400	13" diameter paper tape and reel			
1N5626GP-E3/73	1.28	73	1000	Ammo pack packaging			

## **RATINGS AND CHARACTERISTICS CURVES** ( $T_A = 25$ °C unless otherwise noted)

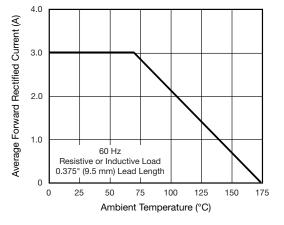


Fig. 1 - Forward Current Derating Curve

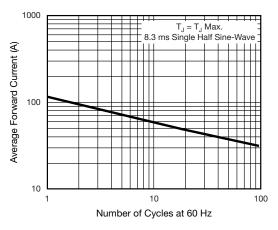


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current



# 1N5624GP, 1N5625GP, 1N5626GP, 1N5627GP

## Vishay General Semiconductor

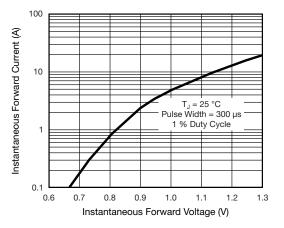


Fig. 3 - Typical Instantaneous Forward Characteristics

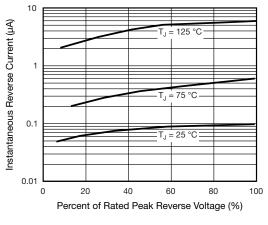
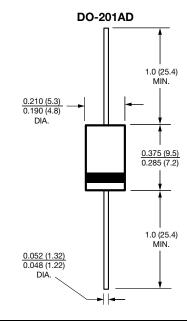


Fig. 4 - Typical Reverse Characteristics

### **PACKAGE OUTLINE DIMENSIONS** in inches (millimeters)



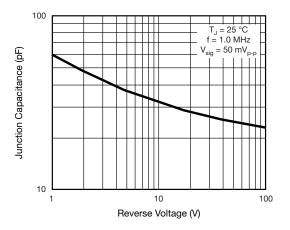


Fig. 5 - Typical Junction Capacitance

Revision: 09-Jun-16 3 Document Number: 88524 For technical questions within your region: <u>DiodesAmericas@vishay.com</u>, <u>DiodesAsia@vishay.com</u>, <u>DiodesEurope@vishay.com</u> THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT <u>www.vishay.com/doc?91000</u>



Vishay

## Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.