

## Glass Passivated Junction Plastic Rectifier



### 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
- AEC-Q101 qualified
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT

### 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  
Base P/NHE3 - RoHS-compliant, AEC-Q101 qualified

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102  
E3 suffix meets JESD 201 class 1A whisker test, HE3 suffix meets JESD 201 class 2 whisker test

**Polarity:** Color band denotes cathode end

| PRIMARY CHARACTERISTICS |                            |
|-------------------------|----------------------------|
| $I_{F(AV)}$             | 3.0 A                      |
| $V_{RRM}$               | 200 V, 400 V, 600 V, 800 V |
| $I_{FSM}$               | 125 A                      |
| $I_R$                   | 5.0 $\mu$ A                |
| $V_F$                   | 0.95 V                     |
| $T_J$ max.              | 175 °C                     |
| Package                 | DO-201AD                   |
| Diode variations        | Single die                 |

| MAXIMUM RATINGS ( $T_A = 25$ °C unless otherwise noted) <sup>(1)</sup>                                |                |               |          |          |          |         |
|---|----------------|---------------|----------|----------|----------|---------|
| PARAMETER   | SYMBOL         | 1N5624GP      | 1N5625GP | 1N5626GP | 1N5627GP | UNIT    |
| Maximum repetitive peak reverse voltage   | $V_{RRM}$      | 200           | 400      | 600      | 800      | V       |
| Maximum DC blocking voltage   | $V_{DC}$       | 200           | 400      | 600      | 800      | V       |
| Maximum average forward rectified current<br>0.375" (9.5 mm) lead length at $T_A = 70$ °C             | $I_{F(AV)}$    | 3.0           |          |          |          | A       |
| Peak forward surge current 8.3 ms single half<br>sine-wave superimposed on rated load                 | $I_{FSM}$      | 125           |          |          |          | A       |
| Maximum full load reverse current, full cycle average<br>0.375" (9.5 mm) lead length at $T_A = 70$ °C | $I_{R(AV)}$    | 200           |          |          |          | $\mu$ A |
| Operating junction and storage temperature range  | $T_J, T_{STG}$ | - 65 to + 175 |          |          |          | °C      |

#### Note

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



| ELECTRICAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted) |  |                         |          |          |          |          |      |
|--|--|-------------------------|----------|----------|----------|----------|------|
| PARAMETER  | TEST CONDITIONS  | SYMBOL                  | 1N5624GP | 1N5625GP | 1N5626GP | 1N5627GP | UNIT |
| Maximum instantaneous forward voltage                                      | 3.0 A  | T <sub>A</sub> = 25 °C  | 1.0      |          |          |          | V    |
|  |  | T <sub>A</sub> = 70 °C  | 0.95     |          |          |          |      |
| Maximum DC reverse current at rated DC blocking voltage                    |  | T <sub>A</sub> = 25 °C  | 5.0      |          |          |          | μA   |
|  |  | T <sub>A</sub> = 150 °C | 300      |          | 200      |          |      |
| Typical reverse recovery time  | I <sub>F</sub> = 0.5 A, I <sub>R</sub> = 1.0 A, I <sub>rr</sub> = 0.25 A | t <sub>rr</sub>         | 3.0      |          |          |          | μs   |
| Typical junction capacitance   | 4.0 V, 1 MHz   | C <sub>J</sub>          | 40       |          |          |          | pF   |

**Notes**

- (1) Pulse test: 300 μs pulse width, 1 % duty cycle
- (2) JEDEC registered values

| THERMAL CHARACTERISTICS (T <sub>A</sub> = 25 °C unless otherwise noted) |                      |          |          |          |          |      |  |
|---|----------------------|----------|----------|----------|----------|------|--|
| PARAMETER   | SYMBOL               | 1N5624GP | 1N5625GP | 1N5626GP | 1N5627GP | UNIT |  |
| Typical thermal resistance  | R <sub>θJA</sub> (1) | 20       |          |          |          | °C/W |  |

**Note**

- (1) Thermal resistance from junction to ambient and from junction to lead at 0.375" (9.5 mm) lead length, P.C.B. 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              |
| 1N5626GPHE3/54 (1)             | 1.28            | 54                     | 1400          | 13" diameter paper tape and reel |
| 1N5626GPHE3/73 (1)             | 1.28            | 73                     | 1000          | Ammo pack packaging              |

**Note**

- (1) AEC-Q101 qualified

**RATINGS AND CHARACTERISTICS CURVES (T<sub>A</sub> = 25 °C unless otherwise noted)**

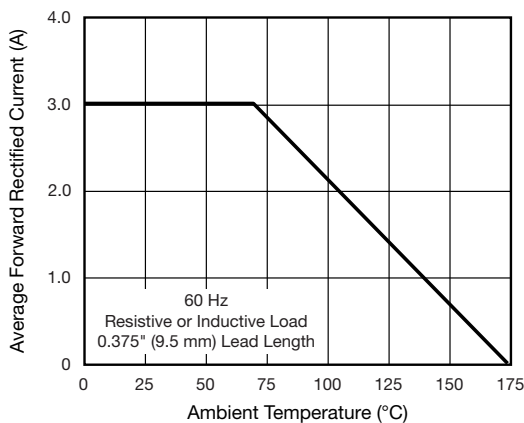


Fig. 1 - Forward Current Derating Curve

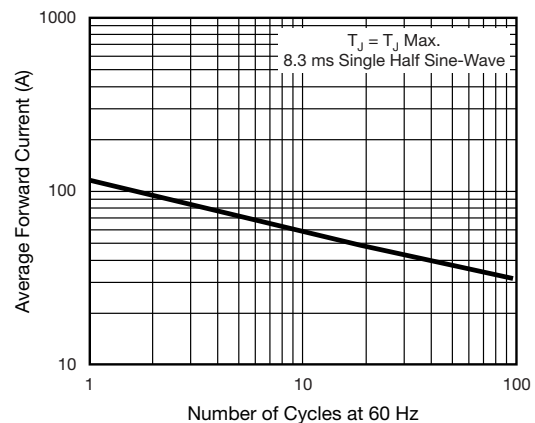


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

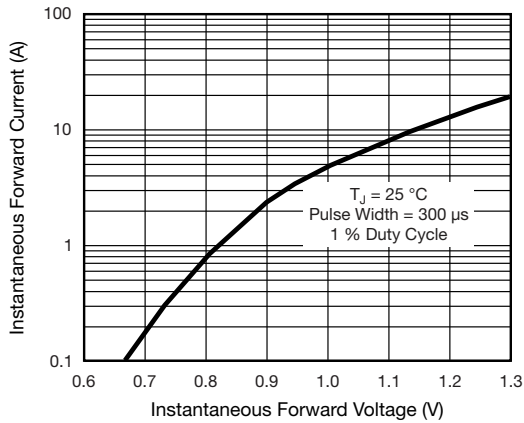


Fig. 3 - Typical Instantaneous Forward Characteristics

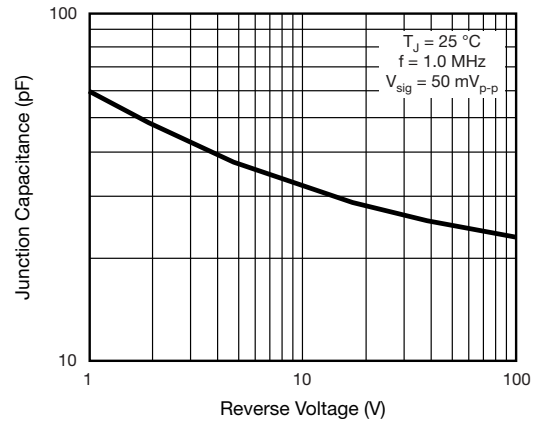


Fig. 5 - Typical Junction Capacitance

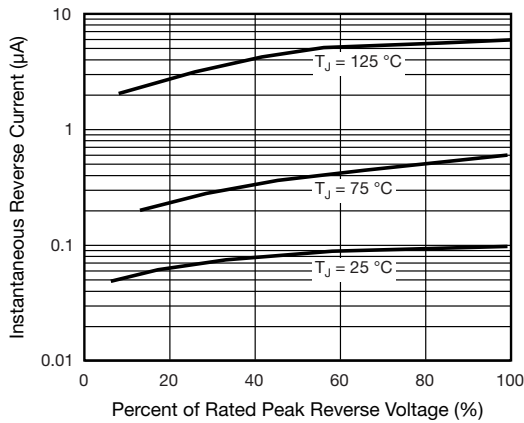
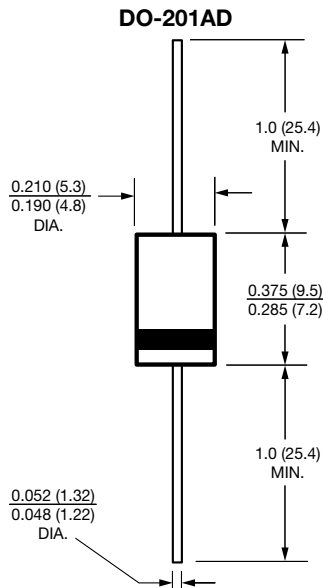


Fig. 4 - Typical Reverse Characteristics

## PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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