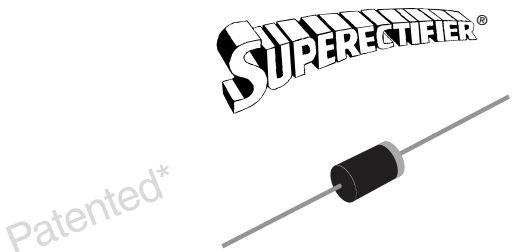
# Glass Passivated Junction Rectifier




DO-201AD

* Glass-plastic encapsulation technique is covered by Patent No. 3,996,602, and brazed-lead assembly by Patent No. 3,930,306

## FEATURES

- Superectifier structure for high reliability application
- Cavity-free glass-passivated junction
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- Meets environmental standard MIL-S-19500
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

RoHS COMPLIANT

## TYPICAL APPLICATIONS

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

| PRIMARY CHARACTERISTICS | |
|---|---|
| $I_{F(AV)}$ | 3.0 A |
| $V_{RRM}$ | 200 V to 800 V |
| $I_{FSM}$ | 125 A |
| $I_R$ | 5.0 µA |
| $V_F$ | 0.95 V |
| $T_J$ max. | 175 °C |

## MECHANICAL DATA

**Case:** DO-201AD, molded epoxy over glass body

Epoxy meets UL 94V-0 flammability rating

**Terminals:** Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test, HE3 suffix for high reliability grade (AEC Q101 qualified), meets JESD 201 class 2 whisker test

**Polarity:** Color band denotes cathode end

**MAXIMUM RATINGS** ($T_A$ = 25 °C unless otherwise noted) (1)

| 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 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 sine-wave superimposed on rated load | $I_{FSM}$ | 125 | | | | A |
| Maximum full load reverse current, full cycle average 0.375" (9.5 mm) lead length at $T_A$ = 70 °C | $I_{R(AV)}$ | 200 | | | | µA |
| Operating junction and storage temperature range | $T_J$, $T_{STG}$ | - 65 to + 175 | | | | °C |

**Note:**

(1) JEDEC registered values

| **ELECTRICAL CHARACTERISTICS** ($T_A$ = 25 °C unless otherwise noted) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **PARAMETER** | **TEST CONDITIONS** | | **SYMBOL** | **1N5624GP** | **1N5625GP** | **1N5626GP** | **1N5627GP** | **UNIT** |
| Maximum instantaneous forward voltage (1,2) | 3.0 A | $T_A$ = 25 °C<br>$T_A$ = 70 °C | $V_F$ | 1.0<br>0.95 | | | | V |
| Maximum DC reverse current at rated DC blocking voltage | | $T_A$ = 25 °C | $I_R$ | 5.0 | | | | µA |
| | | $T_A$ = 150 °C | | 300 | | 200 | | |
| Typical reverse recovery time | $I_F$ = 0.5 A, $I_R$ = 1.0 A, $I_{rr}$ = 0.25 A | | $t_{rr}$ | 3.0 | | | | µs |
| Typical junction capacitance | 4.0 V, 1 MHz | | $C_J$ | 40 | | | | pF |

**Notes:**

(1) Pulse test: 300 µs pulse width, 1 % duty cycle

(2) JEDEC registered values

| **THERMAL CHARACTERISTICS** ($T_A$ = 25 °C unless otherwise noted) | | | | | | |
|---|---|---|---|---|---|---|
| **PARAMETER** | **SYMBOL** | **1N5624GP** | **1N5625GP** | **1N5626GP** | **1N5627GP** | **UNIT** |
| Typical thermal resistance (1) | $R_{\theta JA}$ | 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) Automotive grade AEC Q101 qualified

## RATINGS AND CHARACTERISTICS CURVES

($T_A$ = 25 °C unless otherwise noted)

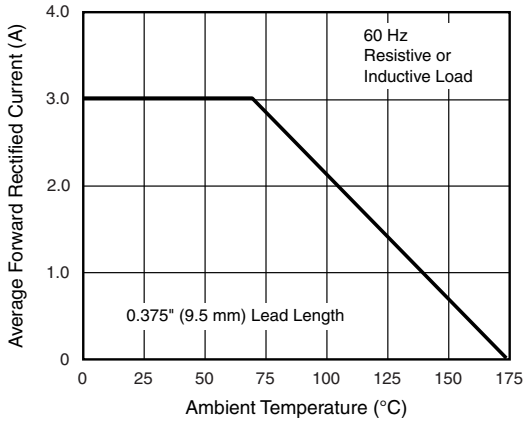



Figure 1. Forward Current Derating Curve

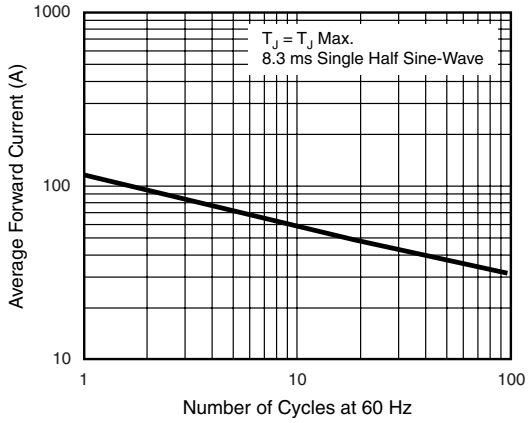



Figure 2. Maximum Non-repetitive Peak Forward Surge Current

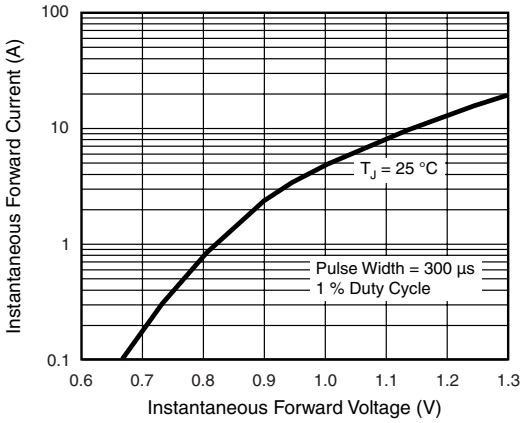



Figure 3. Typical Instantaneous Forward Characteristics

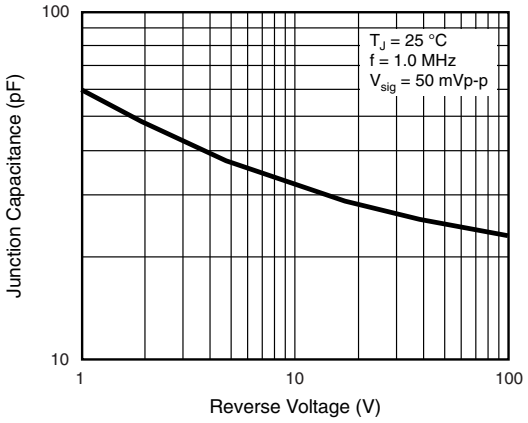



Figure 5. Typical Junction Capacitance

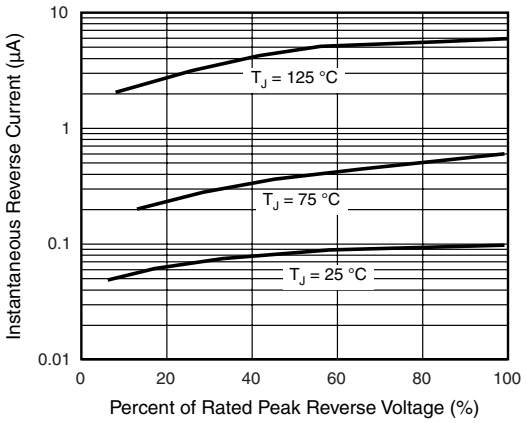



Figure 4. Typical Reverse Characteristics

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

**DO-201AD**