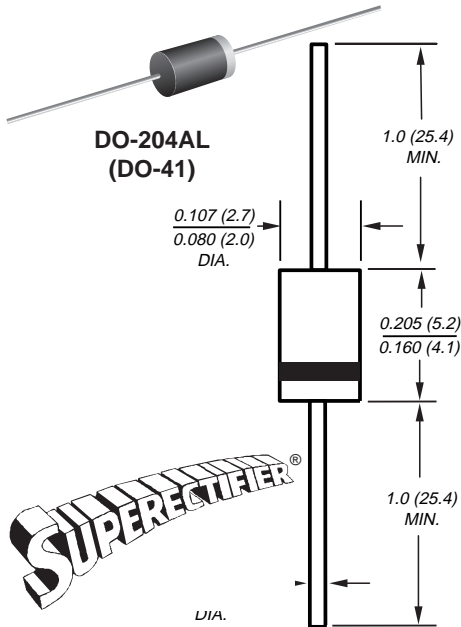


## Glass Passivated Junction Rectifiers

Rev. Voltage 200 to 1000V  
Forward Current 1.0A



Patented\*

### Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- High temperature metallurgically bonded construction
- Capable of meeting environmental standards of MIL-S-19500
- Cavity-free glass passivated junction
- 1.0 Ampere operation at  $T_A=75^\circ\text{C}$  with no thermal runaway
- Typical  $I_R$  less than  $0.1\mu\text{A}$
- High temperature soldering guaranteed:  $350^\circ\text{C}/10$  seconds,  $0.375"$  (9.5mm) lead length, 5 lbs. (2.3kg) tension

### Mechanical Data

**Case:** JEDEC DO-204AL, molded plastic over glass body

**Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes cathode end

**Mounting Position:** Any

**Weight:** 0.012 oz., 0.3 g

**NOTE:** Lead diameter is  $\frac{0.026}{0.023}$  ( $\frac{0.66}{0.58}$ ) for suffix "E" part numbers

Dimensions in inches and (millimeters)

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

## Maximum Ratings & Thermal Characteristics Ratings at $25^\circ\text{C}$ ambient temperature unless otherwise specified.

| Parameter   | Symbol          | 1N 3611GP   | 1N 3612GP | 1N 3613GP | 1N 3614GP | 1N 3957GP | Unit                      |
|---|-----------------|-------------|-----------|-----------|-----------|-----------|---------------------------|
| * Maximum repetitive peak reverse voltage   | $V_{RRM}$       | 200         | 400       | 600       | 800       | 1000      | V                         |
| * Maximum RMS voltage   | $V_{RMS}$       | 140         | 280       | 420       | 560       | 700       | V                         |
| * Maximum DC blocking voltage   | $V_{DC}$        | 200         | 400       | 600       | 800       | 1000      | A                         |
| * Maximum average forward rectified current<br>0.375" (9.5mm) lead length at $T_A = 75^\circ\text{C}$ | $I_{F(AV)}$     | 1.0         |           |           |           |           | A                         |
| * Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)    | $I_{FSM}$       | 30          |           |           |           |           | A                         |
| Typical thermal resistance (Note 1)   | $R_{\theta JA}$ | 55          |           |           |           |           | $^\circ\text{C}/\text{W}$ |
|   | $R_{\theta JL}$ | 25          |           |           |           |           |                           |
| Operating junction and storage temperature range  | $T_J, T_{STG}$  | -65 to +175 |           |           |           |           | $^\circ\text{C}$          |

## Electrical Characteristics Ratings at $25^\circ\text{C}$ ambient temperature unless otherwise specified.

|   |          |            |               |
|---|----------|------------|---------------|
| Maximum instantaneous forward voltage at 1.0A   | $V_F$    | 1.0        | V             |
| * Maximum DC reverse current<br>$T_A = 25^\circ\text{C}$<br>at rated DC blocking voltage<br>$T_A = 150^\circ\text{C}$ | $I_R$    | 1.0<br>300 | $\mu\text{A}$ |
| Typical reverse recovery time at $I_F=0.5\text{A}$ , $I_R=1.0\text{A}$ , $I_{rr}=0.25\text{A}$                        | $t_{rr}$ | 2.0        | $\mu\text{s}$ |
| Typical junction capacitance at 4.0V, 1MHz  | $C_J$    | 8.0        | pF            |

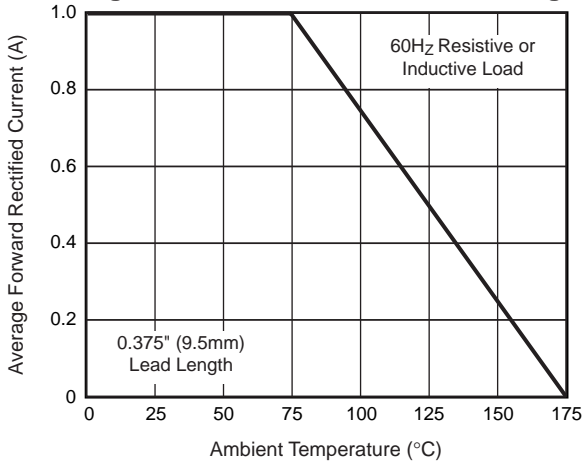
**Notes:** (1) Thermal resistance from junction to ambient and from junction to lead at 0.375" (9.5mm) lead length, P.C.B. mounted  
\*JEDEC registered values



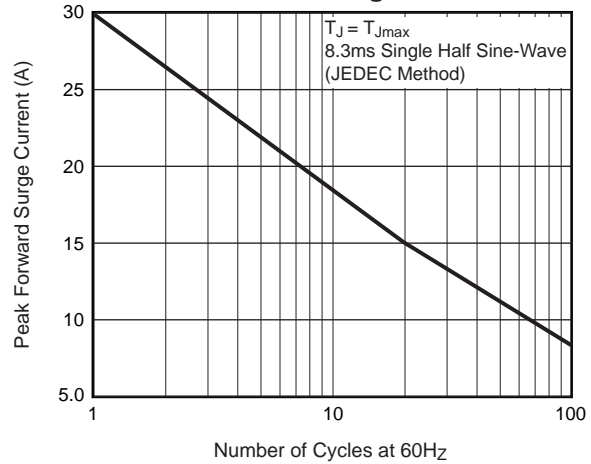
Vishay Semiconductors  
formerly General Semiconductor

## Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

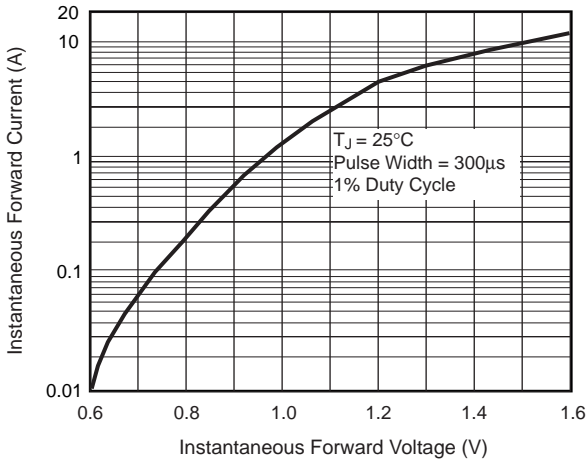
**Fig. 1 – Max. Forward Current Derating**



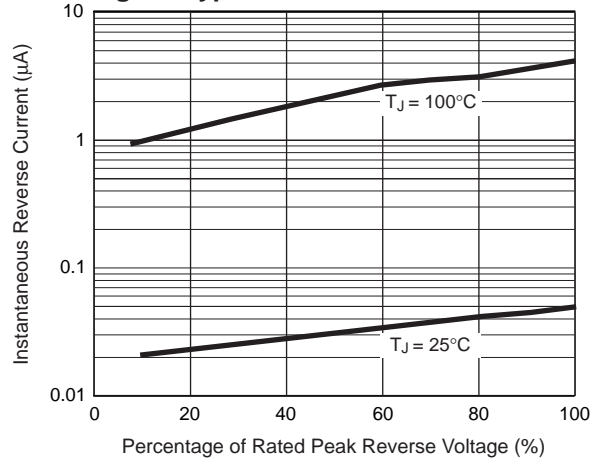
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current**



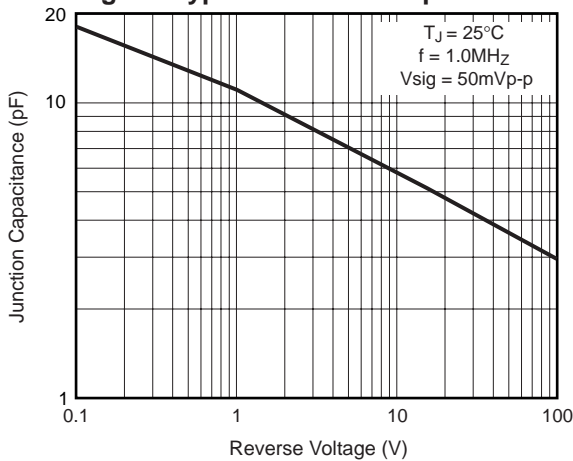
**Fig. 3 – Typical Instantaneous Forward Characteristics**



**Fig. 4 – Typical Reverse Characteristics**



**Fig. 5 – Typical Junction Capacitance**



**Fig. 6 – Typical Transient Thermal Impedance**

