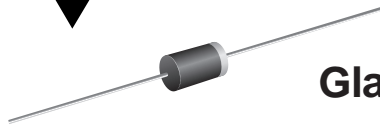




1N4001GP thru 1N4007GP

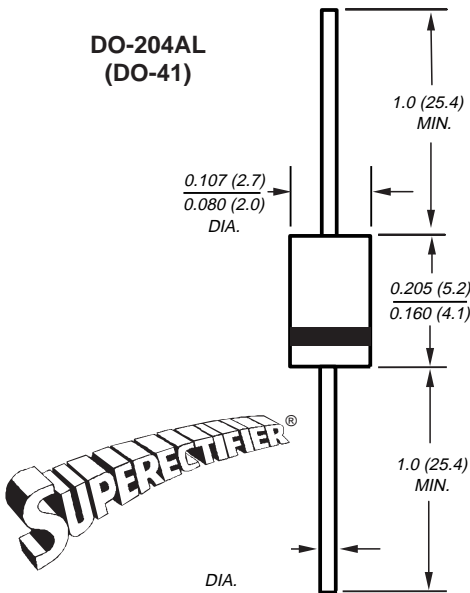
Vishay Semiconductors
formerly General Semiconductor



Glass Passivated Junction Rectifier

Reverse Voltage
50 to 1000V
Forward Current 1.0A

DO-204AL
(DO-41)



Patented*

Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- High temperature metallurgically bonded construction
- Cavity-free glass passivated junction
- Capable of meeting environmental standards of MIL-S-19500
- 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 $\frac{0.026 (0.66)}{0.023 (0.58)}$ 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°C ambient temperature unless otherwise specified.

Parameter	Symbol	1N4001GP	1N4002GP	1N4003GP	1N4004GP	1N4005GP	1N4006GP	1N4007GP	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
* Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
* Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
* Maximum average forward rectified current 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
* Maximum full load reverse current, full cycle average 0.375" (9.5mm) lead length $T_A = 75^\circ\text{C}$	$I_{R(AV)}$	30							μA
Typical thermal resistance (Note 1)	$R_{\theta JA}$ $R_{\theta JL}$	55 25							$^\circ\text{C}/\text{W}$
* Operating junction and storage temperature range	T_J, T_{STG}	-65 to +175							$^\circ\text{C}$

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Maximum instantaneous forward voltage at 1.0A	V_F	1.1	V
* Maximum DC reverse current at rated DC blocking voltage	I_R	$T_A = 25^\circ\text{C}$: 5.0 $T_A = 125^\circ\text{C}$: 50	μA
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	μs
Typical junction capacitance at 4.0V, 1MHz	C_J	8.0	pF

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

1N4001GP thru 1N4007GP



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

Fig. 1 – Forward Current Derating Curve

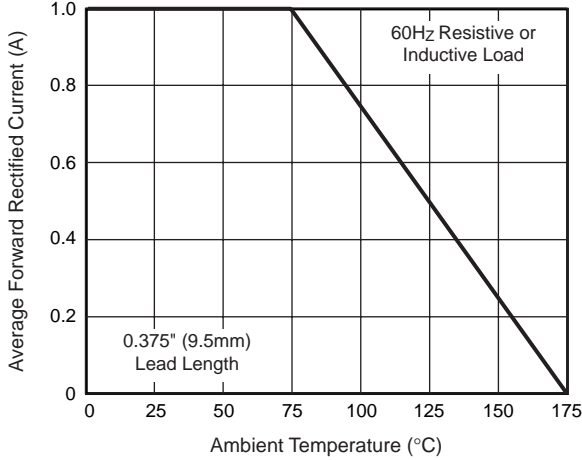


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

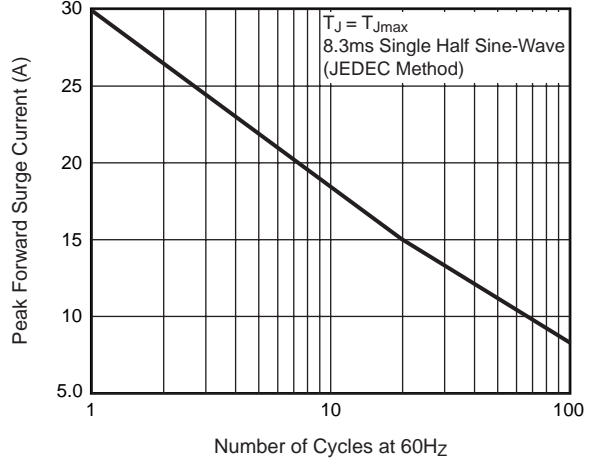


Fig. 3 – Typical Instantaneous Forward Characteristics

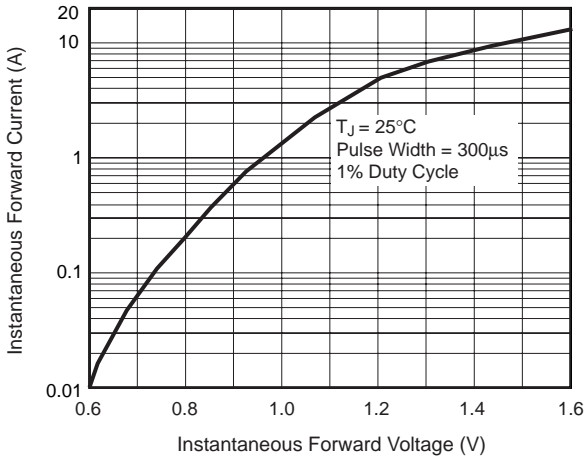


Fig. 4 – Typical Reverse Characteristics

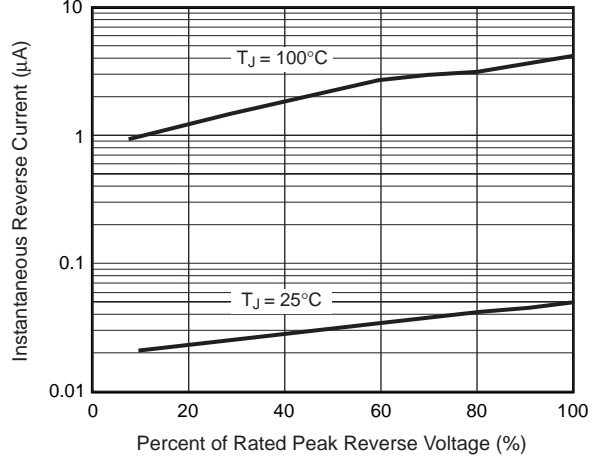


Fig. 5 – Typical Junction Capacitance

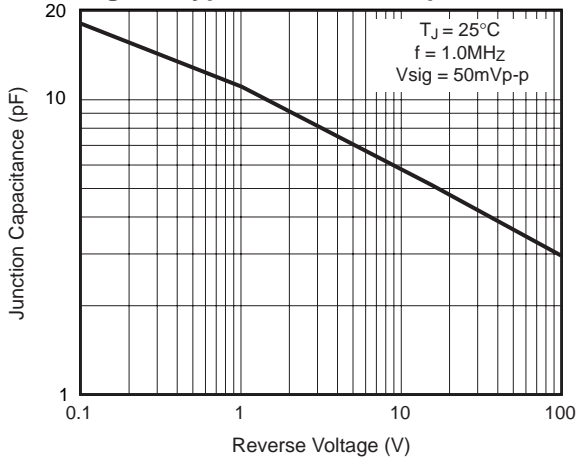


Fig. 6 – Typical Transient Thermal Impedance

