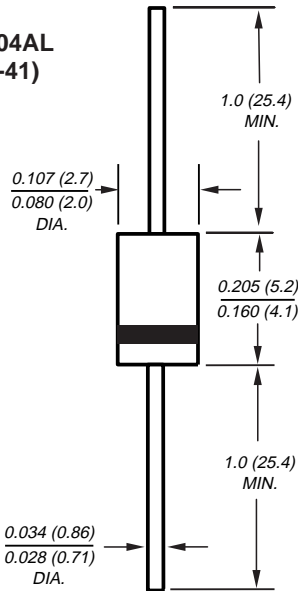


## General Purpose Plastic Rectifier

**Reverse Voltage**  
50 to 1000V  
**Forward Current** 1.0A

DO-204AL  
(DO-41)



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

Dimensions in inches and (millimeters)

### Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- Construction utilizes void-free molded plastic technique
- Low reverse leakage
- High forward surge capability
- High temperature soldering guaranteed: 350°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

### Mechanical Data

**Case:** JEDEC DO-204AL, molded plastic 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

## Maximum Ratings & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symb.	1N 4001	1N 4002	1N 4003	1N 4004	1N 4005	1N 4006	1N 4007	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) $T_A = 75^\circ\text{C}$	$I_{FSM}$	30							A
* Maximum full load reverse current, full cycle average 0.375" (9.5mm) lead length $T_L = 75^\circ\text{C}$	$I_{R(AV)}$	30							$\mu\text{A}$
Typical thermal resistance <sup>(1)</sup>	$R_{\theta JA}$ $R_{\theta JL}$	50 25							$^\circ\text{C/W}$
* Maximum DC blocking voltage temperature	$T_A$	+150							V
* Operating junction and storage temperature range	$T_J, T_{STG}$	-50 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 $T_A = 25^\circ\text{C}$ $T_A = 125^\circ\text{C}$	$I_R$	5.0 50	$\mu\text{A}$
Typical junction capacitance at 4.0V, 1MHz	$C_J$	15	pF

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

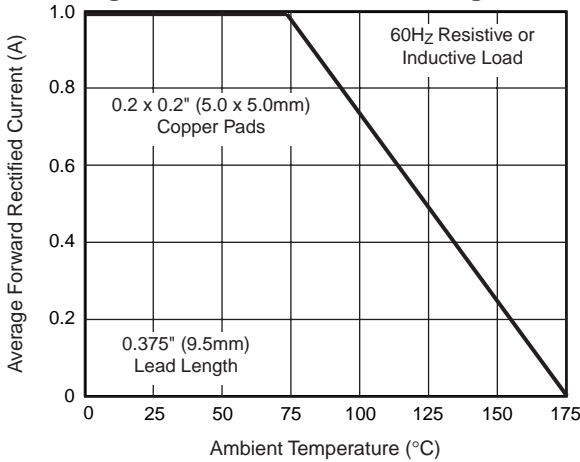
# 1N4001 thru 1N4007

Vishay Semiconductors  
formerly General Semiconductor

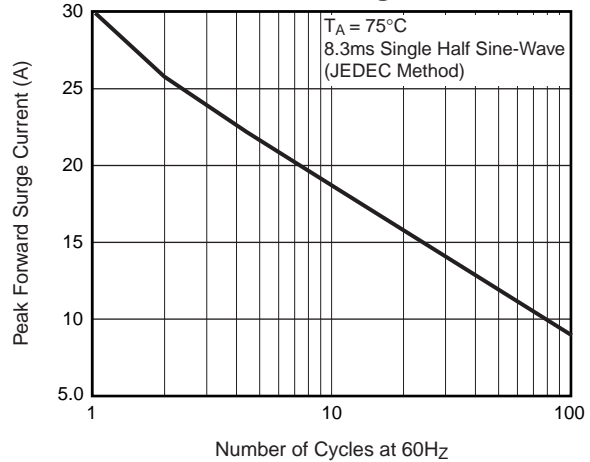


## Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

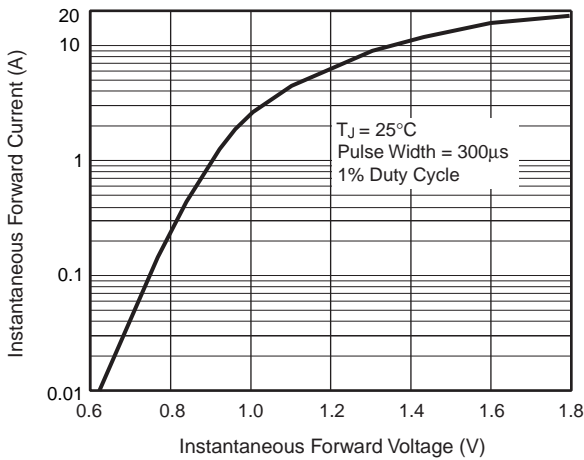
**Fig. 1 – Forward Current Derating Curve**



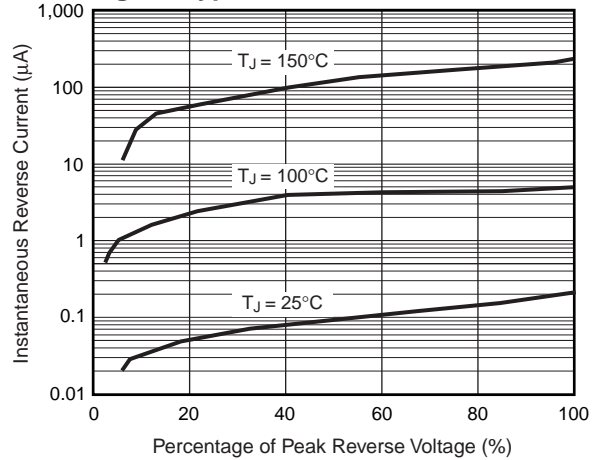
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current**



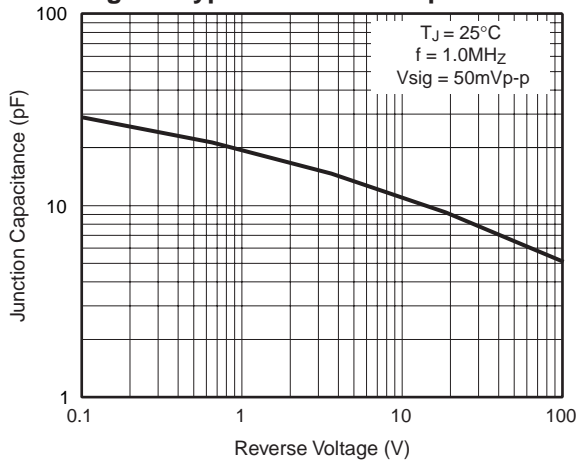
**Fig. 3 – Typical Instantaneous Forward Characteristics**



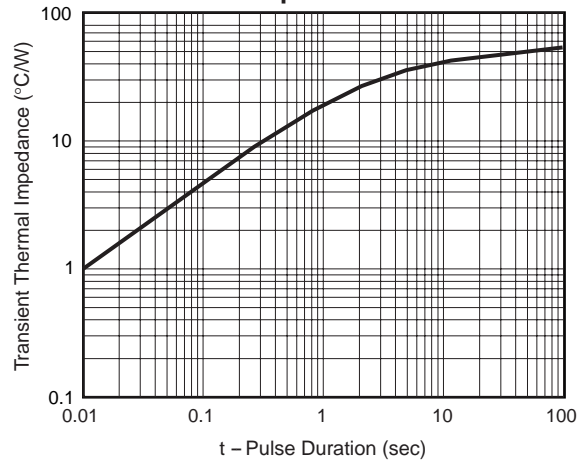
**Fig. 4 – Typical Reverse Characteristics**



**Fig. 5 – Typical Junction Capacitance**



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



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