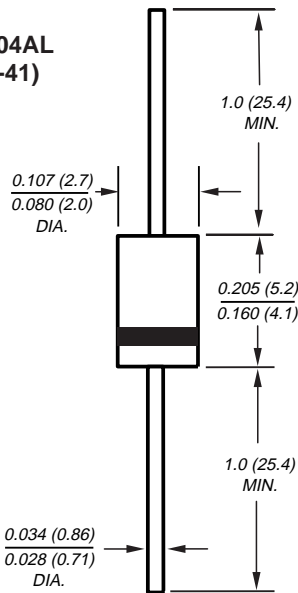


General Purpose Plastic Rectifier

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							μA
Typical thermal resistance ⁽¹⁾	$R_{\theta JA}$ $R_{\theta JL}$	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	μA
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°C unless otherwise noted)

Fig. 1 – Forward Current Derating Curve

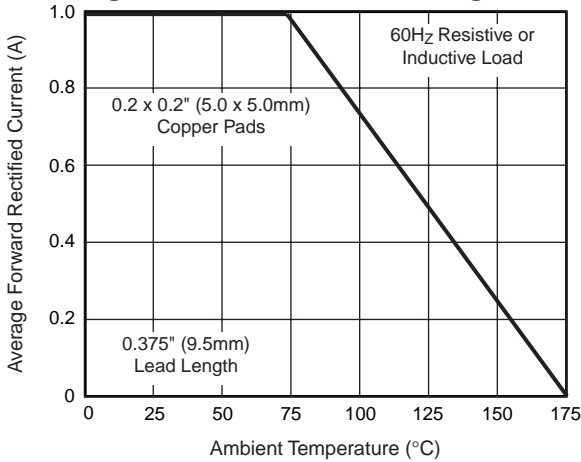


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

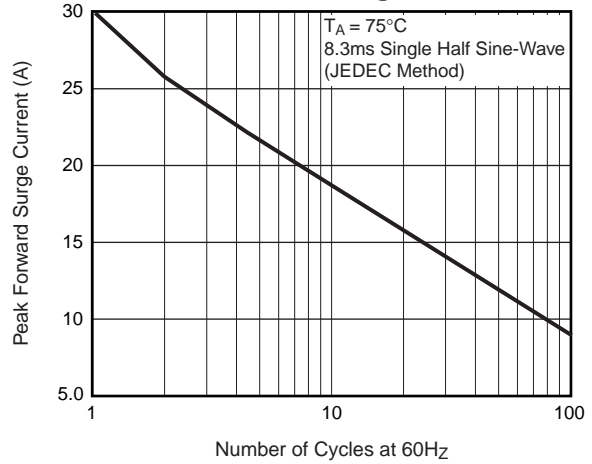


Fig. 3 – Typical Instantaneous Forward Characteristics

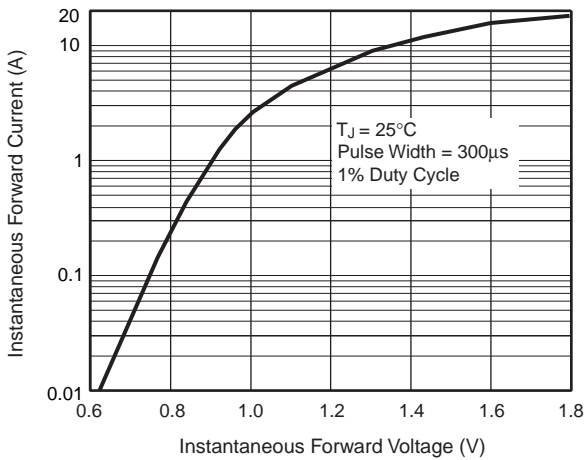


Fig. 4 – Typical Reverse Characteristics

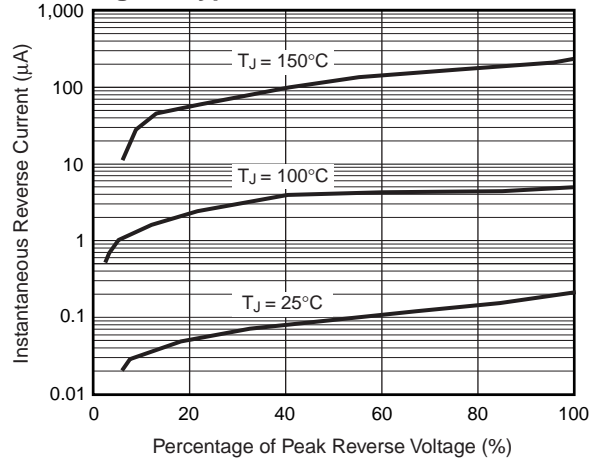


Fig. 5 – Typical Junction Capacitance

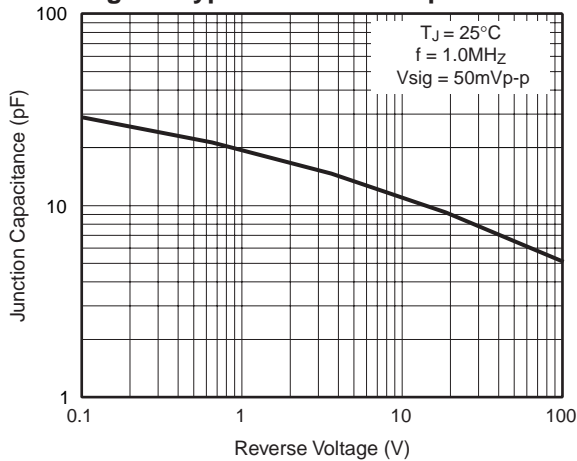


Fig. 6 – Typical Transient Thermal Impedance

