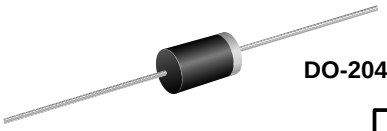
GENERAL SEMICONDUCTOR®

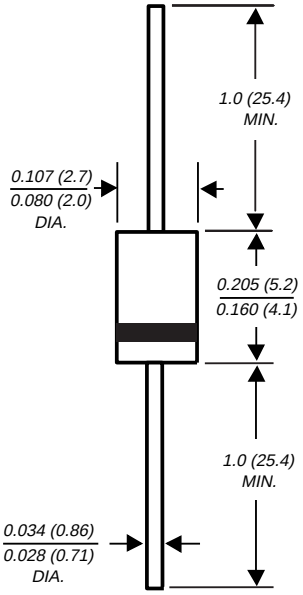
1N4001 THRU 1N4007

General Purpose Plastic Rectifier

Reverse Voltage 50 to 1000 V
Forward Current 1.0 A



DO-204AL (DO-41)



NOTE: *Lead diameter is* 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: 250°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 ounce, 0.3 gram

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	1N 4001	1N 4002	1N 4003	1N 4004	1N 4005	1N 4006	1N 4007	UNITS
*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°C	$I_{F(AV)}$	1.0							A
*Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) T_A=75°C	I_{FSM}	30							A
*Maximum full load reverse current full cycle average 0.375" (9.5mm) lead length at T_L=75°C	$I_{R(AV)}$	30							µA
Typical thermal resistance (NOTE 1)	$R_{\Theta JA}$ $R_{\Theta JL}$	50 25							°C/W
Maximum DC blocking voltage temperature	T_A	+150							°C
*Operating junction and storage temperature range	T_J, T_{STG}	-50 to +175							°C

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	1N 4001	1N 4002	1N 4003	1N 4004	1N 4005	1N 4006	1N 4007	UNITS
*Maximum instantaneous forward voltage at 1.0A	V_F	1.1							V
*Maximum DC reverse current at rated DC blocking voltage T_A= 25°C T_A=100°C	I_R	5.0 50							µA
Typical reverse recovery time at I_{FM}=20mA, I_{RM}=1mA (NOTE 2)	t_{rr}	30							µs
Typical junction capacitance at 4.0V, 1MHz	C_J	15							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
(2) Measured on Tektronix type "S" recovery plug-in. Tektronix 545 scope or equivalent.
*JEDEC registered values

11/29/99

Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

FIG.1 - FORWARD CURRENT DERATING CURVE

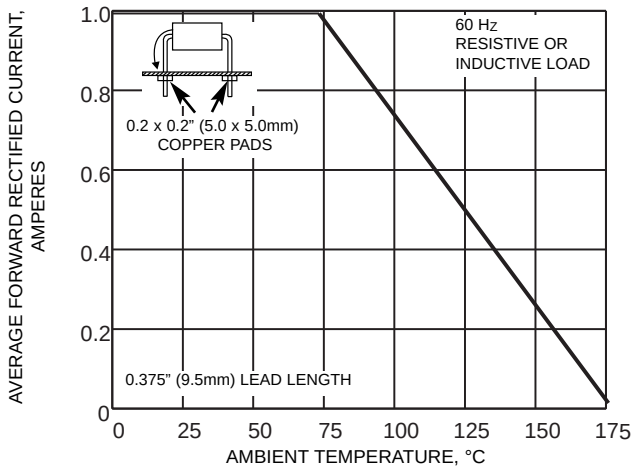


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

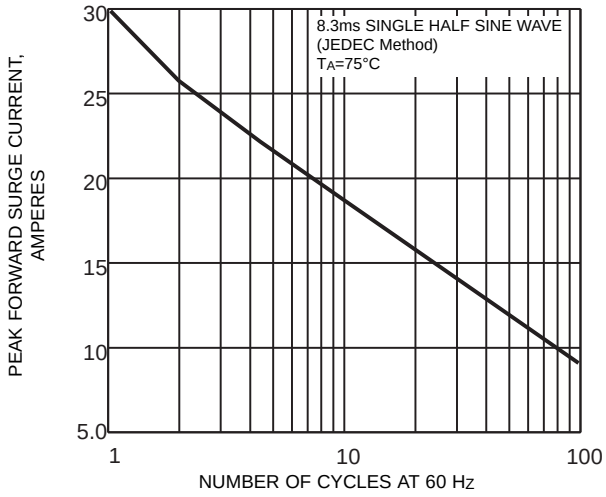


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

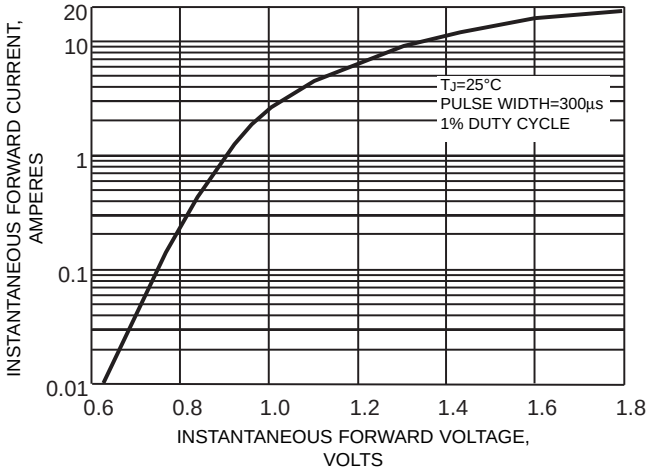


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

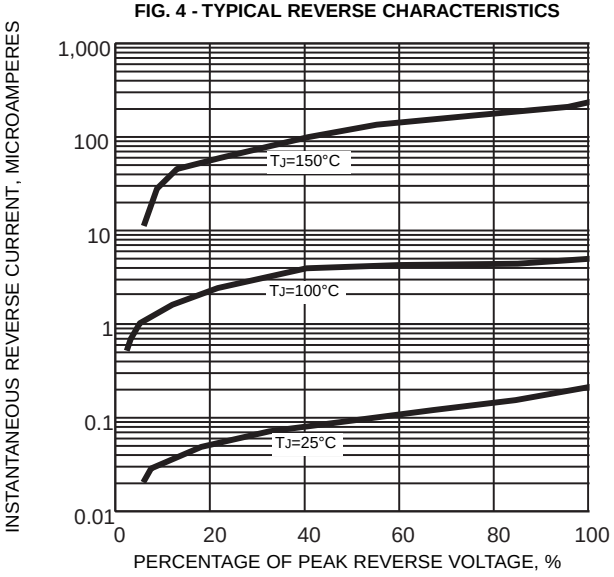


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

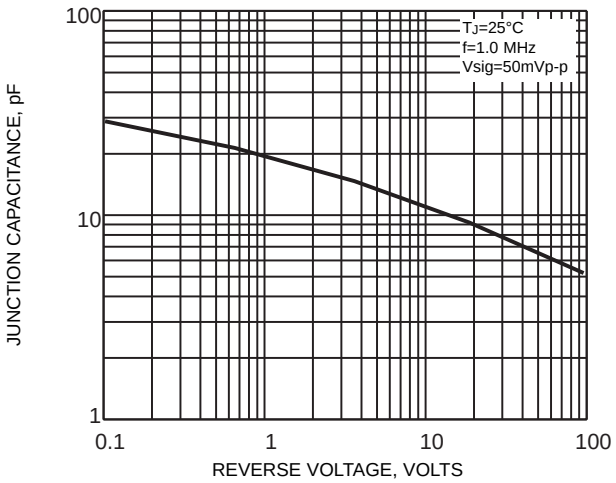


FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE