

4855452 INTERNATIONAL RECTIFIER

55C 04903 D

Data Sheet No. PD-2.005C

T-01-13

INTERNATIONAL RECTIFIER 

**1N4001 SERIES**

**1.0 Amp Silicon Rectifier Diodes**

**Major Ratings and Characteristics**

	1N4001	Units
$I_{F(AV)}$	1.0 *	A
@ Max. $T_A$	75 *	$^{\circ}C$
$I_{FSM}$		
@ 50 Hz	28.7	A
@ 60 Hz	30 *	A
$I^2\sqrt{t}$	58.1	$A^2\sqrt{s}$
$T_J$ Range	-65 to 175 *	$^{\circ}C$
VRRM Range	50 to 1000 *	V

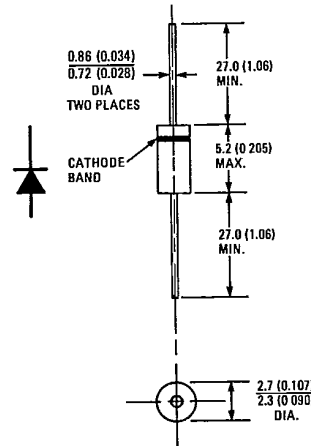
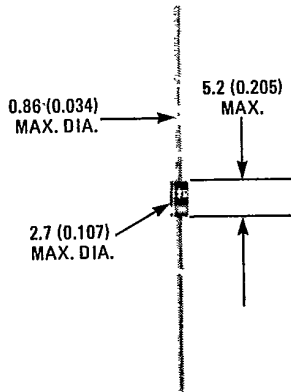
**Description/Features**

- Economical 1 ampere general purpose diode for industrial application
- Molded epoxy DO-204AL case style
- Low forward voltage drop and high surge rating
- Excellent reliability

**B**

\*JEDEC registered value.

**CASE STYLE AND DIMENSIONS**



Case Style DO-204AL (DO-41)  
Dimensions in Millimeters and (Inches)

4855452 INTERNATIONAL RECTIFIER

55C 04904 D

1N4001 Series

INTERNATIONAL RECTIFIER 

T-01-13

## VOLTAGE RATINGS

Part Number	V <sub>RRM</sub> - Max. Repetitive Peak Reverse Voltage (V)	V <sub>R(RMS)</sub> - Max. RMS Reverse Voltage (V)	V <sub>R</sub> - Max. DC Blocking Voltage (V)
	T = -65 to 175°C	T = -65 to 175°C	T = -65 to 165°C
1N4001	50*	35	50*
1N4002	100*	70	100*
1N4003	200*	140	200*
1N4004	400*	280	400*
1N4005	600*	420	600*
1N4006	800*	560	800*
1N4007	1000*	700	1000*

## ELECTRICAL SPECIFICATIONS

		1N4001	Units	Conditions
I <sub>F(AV)</sub>	Max. average forward current @ Max. T <sub>A</sub>	1.0*	A	Half sine wave conduction ①, double side cooled.
		75*	°C	
I <sub>FSM</sub>	Max. peak one cycle, non-repetitive surge current	28.7	A	Half cycle 50 Hz sine wave or 6 ms rectangular pulse. Following any rated load condition, and with rated V <sub>RRM</sub> reapplied.
		30*		
I <sup>2</sup> √t	Max. I <sup>2</sup> √t for fusing ①	58.1	A <sup>2</sup> √s	t = 0.1 to 10 ms, with V <sub>RRM</sub> following surge = rated V <sub>RRM</sub> .
V <sub>FM</sub>	Max. peak forward voltage	1.1*	V	T <sub>A</sub> = -65°C to 75°C, I <sub>F</sub> = 1 Adc
		1.6*	V	T <sub>A</sub> = -65°C to 75°C, I <sub>F(AV)</sub> = 1A (3.14A peak)
I <sub>R</sub>	Max. dc reverse current	10*	μA	T <sub>A</sub> = 25°C
		50*	μA	T <sub>A</sub> = 100°C
I <sub>R(AV)</sub>	Max. average reverse current	30*	μA	T <sub>A</sub> = 75°C, I <sub>F(AV)</sub> = 1A, V <sub>RRM</sub> = rated V <sub>RRM</sub>

## THERMAL-MECHANICAL SPECIFICATIONS

T <sub>J</sub>	Max. operating junction temperature range	-65* to 175*	°C
T <sub>stg</sub>	Max. storage temperature range	-65* to 200*	°C
wt	Approximate weight	0.33 (0.012)	g (oz)
	Case Style	DO-204AL (DO-41)	

① T<sub>L</sub> is measured 8.7 mm (0.344 in.) to 9.5 mm (0.375 in.) from device case.① I<sup>2</sup>t for time t<sub>x</sub> = I<sup>2</sup>√t · √t<sub>x</sub>.

\*JEDEC registered values.

4855452 INTERNATIONAL RECTIFIER

55C 04905 D



1N4001 Series

T-01-13

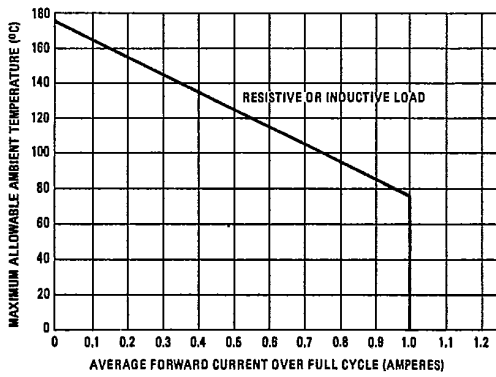


Fig. 1 - Average Forward Current Vs. Maximum Allowable Ambient Temperature

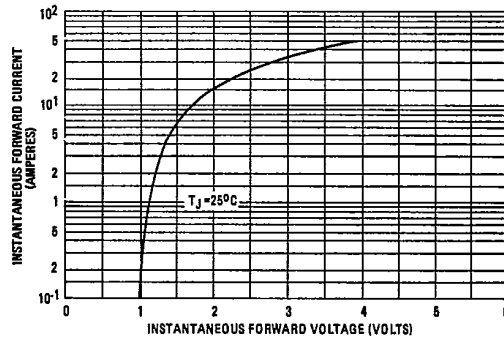


Fig. 2 - Maximum Forward Voltage vs. Forward Current

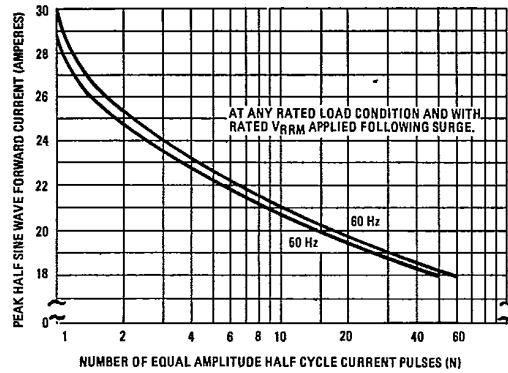


Fig. 3 - Maximum Non-Repetitive Surge Current Vs. Number of Current Pulses

B