

# 1N4001AT THRU 1N4007AT

## SURFACE MOUNT GENERAL PURPOSE SILICON RECTIFIERS

Forward current-1.0A

Reverse voltage-50V to1000V

### FEATURES

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ Construction utilizes void-free molded plastic technique
- ◆ Low reverse leakage current
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed:  
2\* 0°C/10 seconds,0.375”(9.5mm) lead length, 5 lbs. (2.3kg) tension

### MECHANICAL DATA

- ◆ Case: JEDEC DO-41 molded plastic body
- ◆ Terminals: Plated axial leads,solderable per MIL-STD-750,Method 2026
- ◆ Polarity: Color band denotes cathode end
- ◆ Weight: Approximated 0.1 grams



Marking:1N4001~1N4007

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derating by 20 %

PARAMETER	SYMBOL	1N4001AT	1N4002AT	1N4003AT	1N4004AT	1N4005AT	1N4006AT	1N4007AT	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 at $T_A=55^\circ\text{C}$	$I_{F(AV)}$	1.0							A
Peak Forward Surge Current (Note1)	$I_{FSM}$	30							A
Maximum Forward Voltage at 1.0A	$V_F$	1.1							V
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_A=25^\circ\text{C}$ $T_A=100^\circ\text{C}$	$I_R$	5 50							$\mu\text{A}$
Junction Capacitance (Note2)	$C_J$	15							pF
Thermal Resistance (Note3)	$R_{\theta JA}$	50							$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65 to +175							$^\circ\text{C}$

Notes: 1. Measured at 8.3 ms single half sine wave superimposed on rated load (JEDEC Method) .

2. Measured at 1MHz and applied reverse voltage of 4.0 D.C.

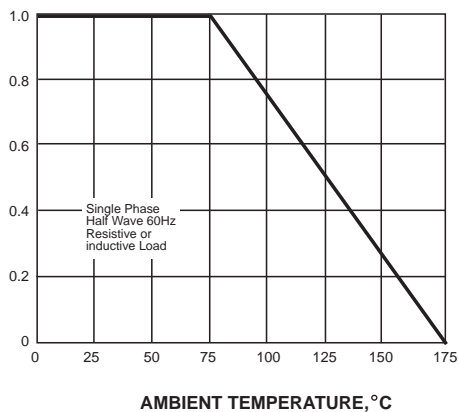
3.  $V_F$  at  $I_F=1.0\text{A}$  &  $I_R$  at  $V_R=V_{RRM}$  &  $I_{FSM}$  at  $V_F=1.1\text{V}$  &  $C_J$  at  $V_R=0\text{V}$  &  $R_{\theta JA}$  at  $T_A=25^\circ\text{C}$  &  $T_{STG}$  at  $T_J=25^\circ\text{C}$

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## RATINGS AND CHARACTERISTIC CURVES

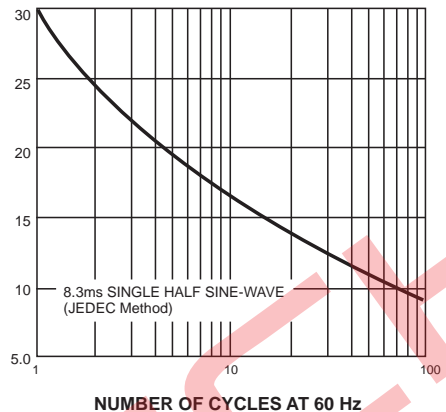
AVERAGE FORWARD RECTIFIED CURRENT,  
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



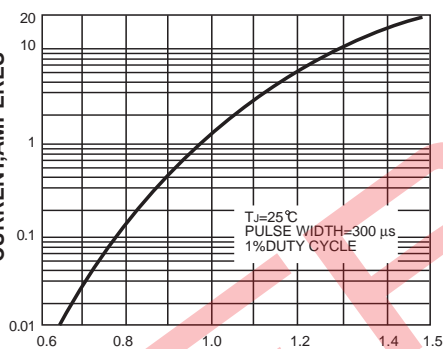
PEAK FORWARD SURGE CURRENT,  
AMPERES

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



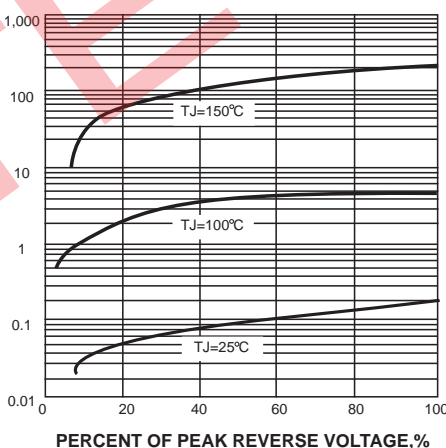
INSTANTANEOUS FORWARD CURRENT, AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



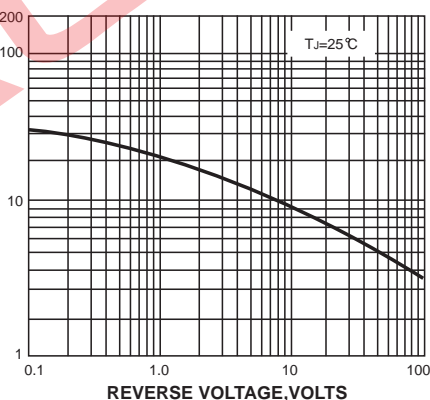
INSTANTANEOUS REVERSE CURRENT,  
MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



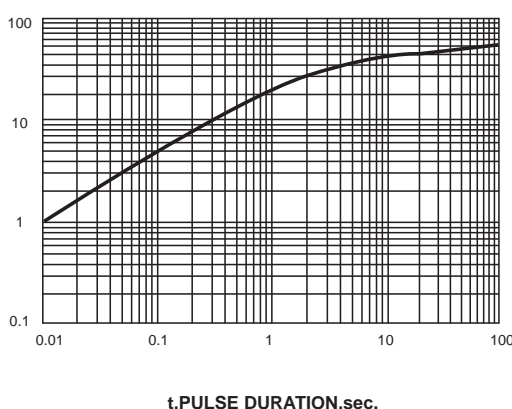
JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE,  
°C/W

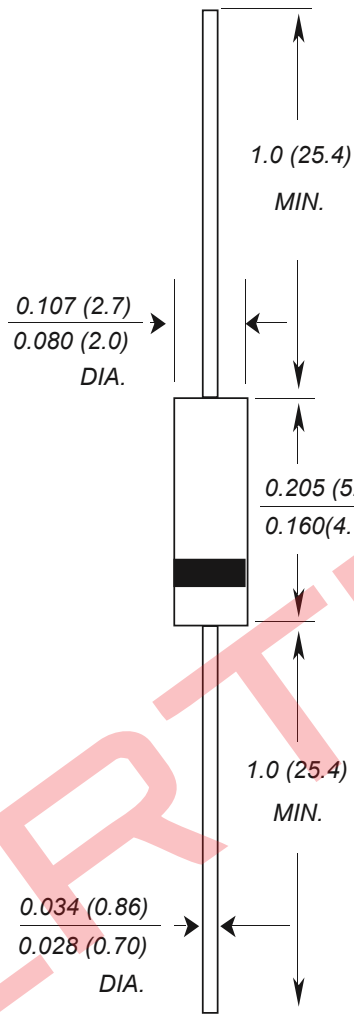
FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



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## PACKAGE OUTLINE

DO-41



Dimensions in inches and (millimeters)

### ORDERING INFORMATION

Device	Package	Shipping
1N4001AT thru 1N4007AT	DO-41	5,000/Tape & Reel (13 inches)

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