

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:
260°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 0.33 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							μA
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.

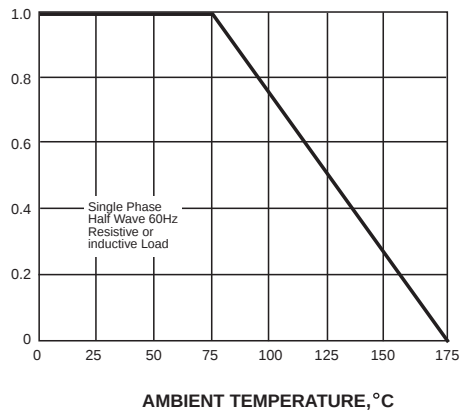
3. Thermal resistance from junction to ambient at 0.375"(9.5mm)lead length,P.C.B. mounted

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RATINGS AND CHARACTERISTIC CURVES

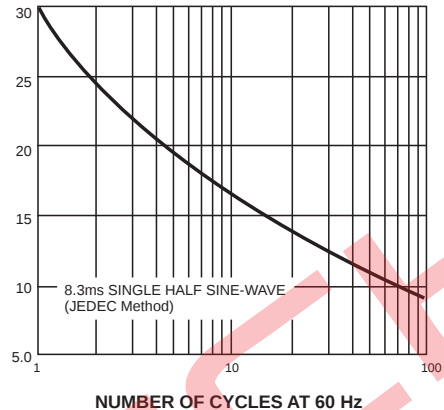
AVERAGE FORWARD RECTIFIED CURRENT,
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



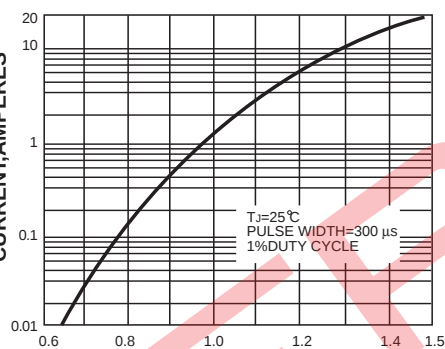
PEAK FORWARD SURGE CURRENT,
AMPERES

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



INSTANTANEOUS FORWARD
CURRENT, AMPERES

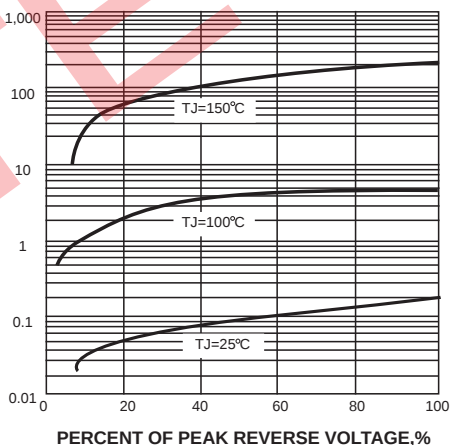
FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS FORWARD VOLTAGE,
VOLTS

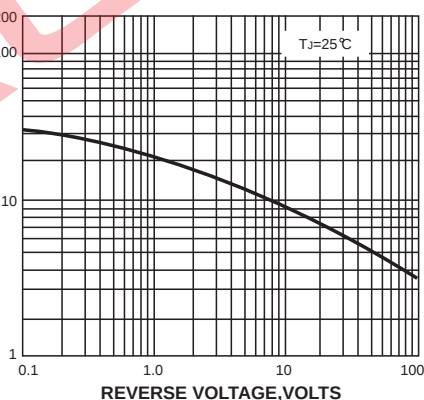
INSTANTANEOUS REVERSE CURRENT,
MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



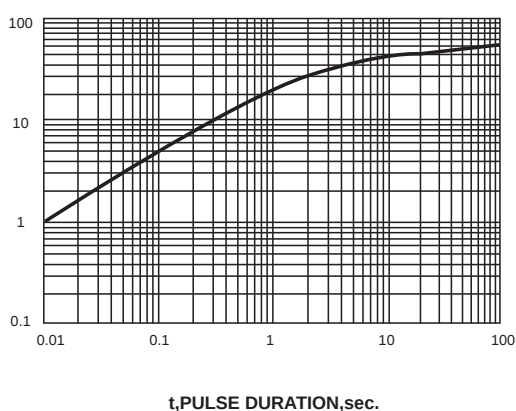
JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE,
°C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

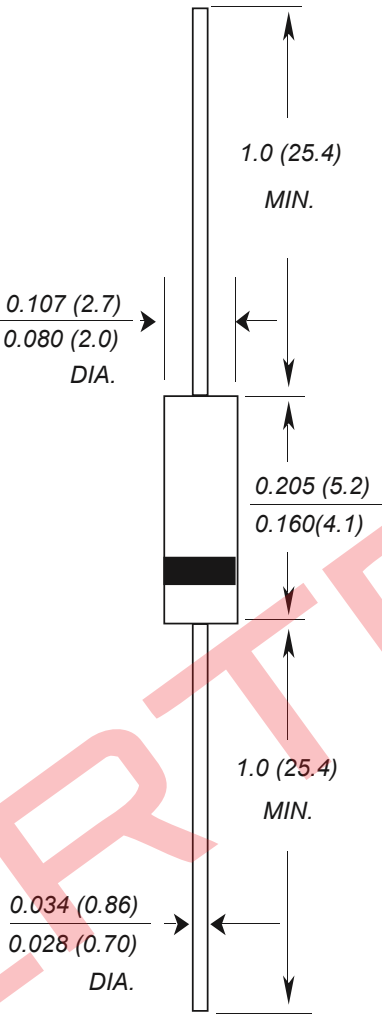


t, PULSE DURATION, sec.

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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)