



AXIAL SILASTIC GUARD JUNCTION STANDARD RECTIFIER

1N4001 THRU 1N4007

**VOLTAGE RANGE
CURRENT**

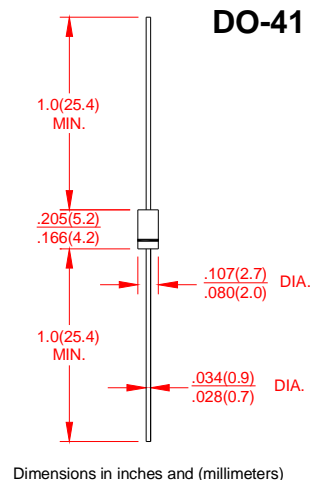
**50 to 1000 Volts
1.0 Ampere**

FEATURES

- Low cost construction
- Low forward voltage drop
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed:
260°C/10 seconds/.375" (9.5mm) lead length at 5 lbs (2.3kg) tension

MECHANICAL DATA

- Case: Transfer molded plastic
- Epoxy: UL94V-O rate flame retardant
- Polarity: Color band denotes cathode end
- Lead: Plated axial lead, solderable per MIL-STD-202E method 208C
- Mounting position: Any
- Weight: 0.012 ounce, 0.33 grams



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

- Ratings at 25°C ambient temperature unless otherwise specified
- Single Phase, half wave, 60Hz, resistive or inductive load
- For capacitive load derate current by 20%

	SYMBOLS	1N4001	1N4002	1N4003	1N4004	1N4005	1N4006	1N4007	UNIT
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current 0.375" (9.5mm) lead length at $T_A = 25^\circ\text{C}$	$I_{(AV)}$	1.0							Amps
Peak Forward Surge Current 8.3ms single half sine wave superimposed on rated load (JEDEC method)	I_{FSM}	30							Amps
Maximum Instantaneous Forward Voltage @ 1.0A	V_F	1.1							Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage per element	$T_A = 25^\circ\text{C}$	5.0							μA
	$T_A = 100^\circ\text{C}$	50							
Maximum Full Load Reverse Current, full cycle average 0.375" (9.5mm) lead length at $T_L = 75^\circ\text{C}$	$I_{R(AV)}$	30							μA
Typical Junction Capacitance (Note 1)	C_J	13							pF
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	50							$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	T_J	-55 to +150							$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150							$^\circ\text{C}$

Notes:

1. Measured at 1.0MHz and Applied Reverse Voltage of 4.0V DC.
2. Thermal Resistance from junction to terminal 6.0mm² copper pads to each terminal.
3. The chip size is 40mil \times 40mil



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RATING AND CHARACTERISTIC CURVES 1N4001 Thru 1N4007

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

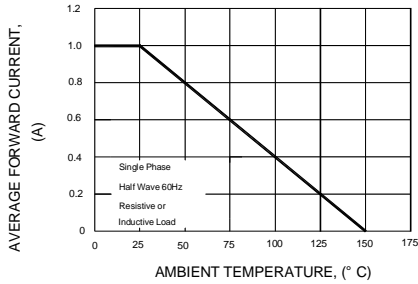


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

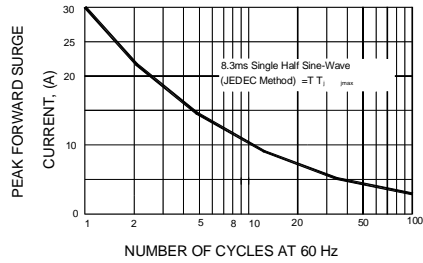


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

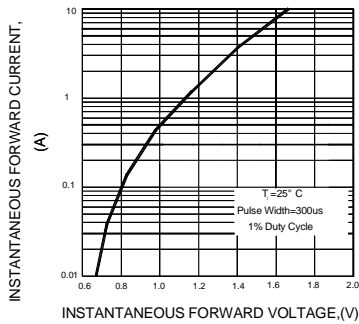


FIG.4-TYPICAL REVERSE CHARACTERISTICS

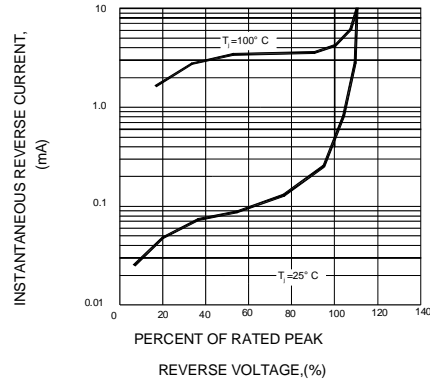


FIG.5-TYPICAL JUNCTION CAPACITANCE

