

# General Purpose Plastic Rectifier

## 1N4001 thru 1N4007

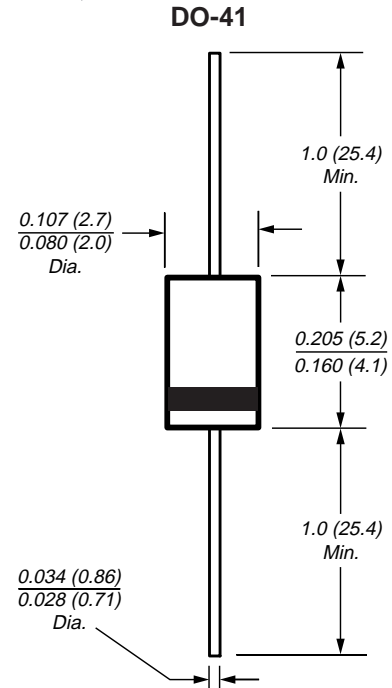
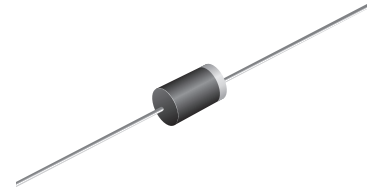
Reverse Voltage: 50 to 1000V  
Forward Current: 1.0A

### Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Low reverse leakage
- High forward surge capability
- High temperature soldering guaranteed: 350°C/10 Seconds, 0.375" (9.5mm) lead length
- Guardring for overvoltage protection

### 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
- Mounting Position: Any
- Weight: 0.012 oz., 0.3 g
- Weight: 0.34 g



### Maximum Ratings & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symb.	1N4001	1N4002	1N4003	1N4004	1N4005	1N4006	1N4007	Unit
Maximum repetitive peak reverse voltage	VRRM	50	100	200	400	600	800	1000	V
* Maximum RMS voltage	VRMS	35	70	140	280	420	560	700	V
* Maximum DC blocking voltage	VDC	50	100	200	400	600	800	1000	V
* Maximum average forward rectified current 0.375" (9.5mm) lead length at T <sub>A</sub> = 75°C	I <sub>F(AV)</sub>	1.0							A
* Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) T <sub>A</sub> = 75°C	I <sub>FSM</sub>	30							A
* Maximum full load reverse current, full cycle average 0.375" (9.5mm) lead length T <sub>L</sub> = 75°C	I <sub>R(AV)</sub>	30							μA
Typical thermal resistance <sup>(1)</sup>	R <sub>θJA</sub> R <sub>θJL</sub>	50 25							°C/W
* Maximum DC blocking voltage temperature	T <sub>A</sub>	+150							V
* Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-50 to +175							°C

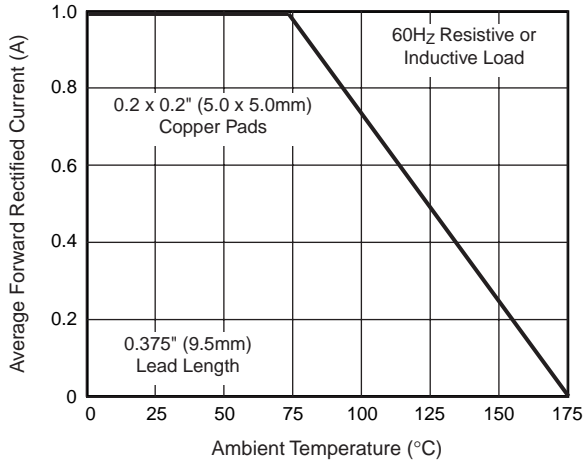
### Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Maximum instantaneous forward voltage at 1.0A	V <sub>F</sub>	1.1							V
* Maximum DC reverse current at rated DC blocking voltage	I <sub>R</sub>	5.0 50							μA
Typical junction capacitance at 4.0V, 1MHz	C <sub>J</sub>	15							pF

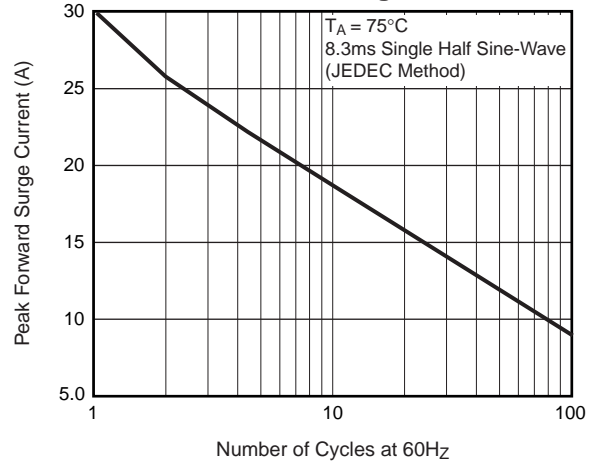
**Note:** (1) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted \*JEDEC registered values

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

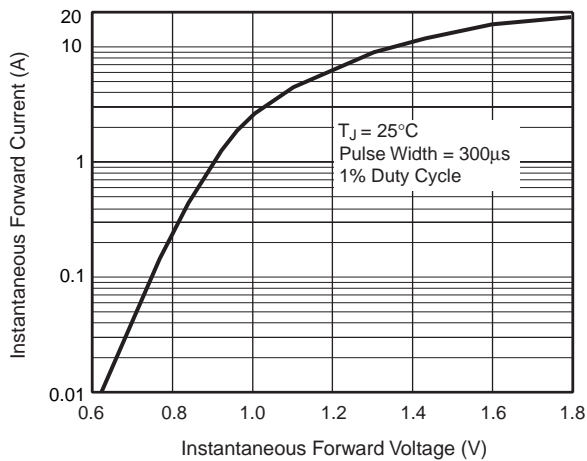
**Fig. 1 – Forward Current Derating Curve**



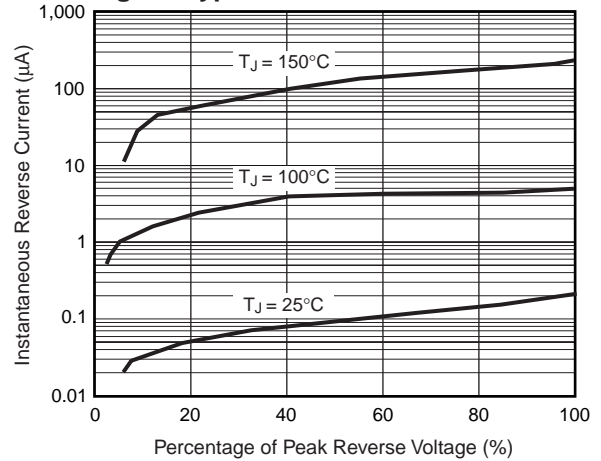
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current**



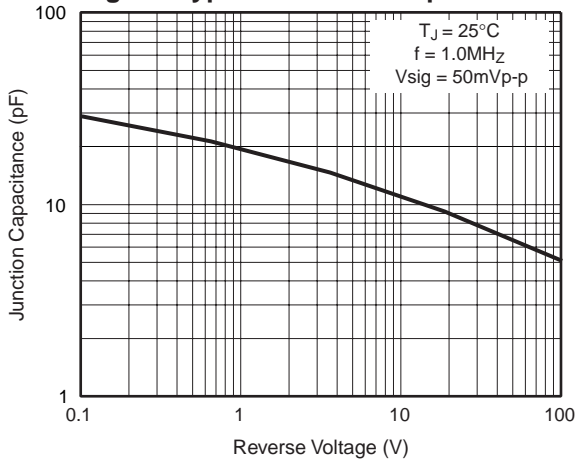
**Fig. 3 – Typical Instantaneous Forward Characteristics**



**Fig. 4 – Typical Reverse Characteristics**



**Fig. 5 – Typical Junction Capacitance**



**Fig. 6 – Typical Transient Thermal Impedance**

