

# 1N4001 - 1N4007, BY133

1.0 AMP. Silicon Rectifiers

**DO-41**

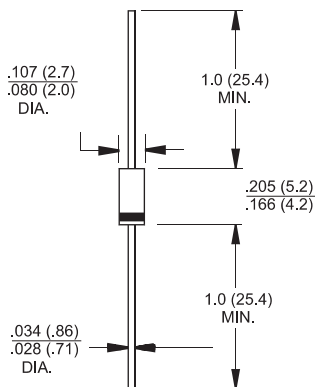


## Features

- ✧ High efficiency, Low VF
- ✧ High current capability
- ✧ High reliability
- ✧ High surge current capability
- ✧ Low power loss

## Mechanical Data

- ✧ Cases: Molded plastic
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ Lead: Pure tin plated, lead free., solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: Color band denotes cathode end
- ✧ High temperature soldering guaranteed: 260 °C /10 seconds/.375", (9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ✧ Weight: 0.35 gram



Dimensions in inches and (millimeters)

## Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

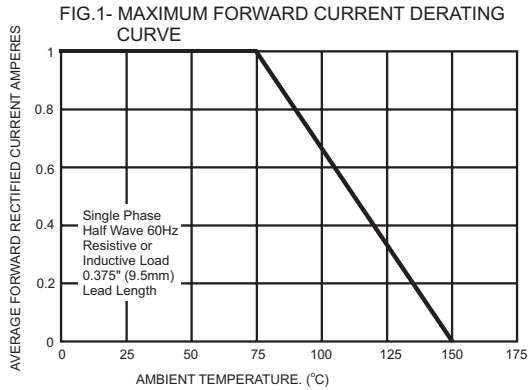
Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

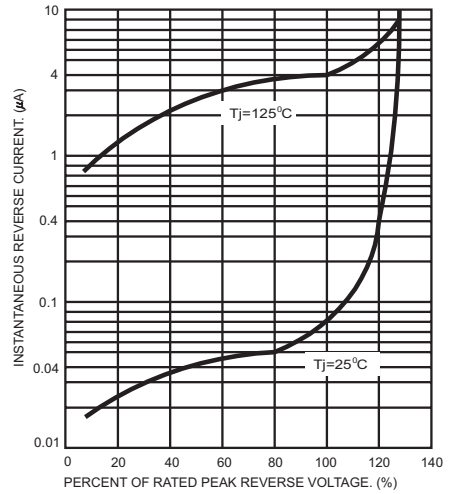
Type Number	Symbol	1N 4001	1N 4002	1N 4003	1N 4004	1N 4005	1N 4006	1N 4007	BY 133	Units
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	1300	V
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	700	910	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	1300	V
Maximum Average Forward Rectified Current .375" (9.5mm) Lead Length @ $T_A = 75^\circ\text{C}$	$I_{(AV)}$	1.0								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method )	$I_{FSM}$	30								A
Maximum Instantaneous Forward Voltage @1.0A	$V_F$	1.0								V
Maximum DC Reverse Current @ $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A=125^\circ\text{C}$	$I_R$	5.0 50								$\mu\text{A}$ $\mu\text{A}$
Maximum Full Load Reverse Current ,Full Cycle Average .375" (9.5mm) Lead Length @ $T_A=75^\circ\text{C}$	$HT_{IR}$	30								$\mu\text{A}$
Typical Junction Capacitance ( Note 1 )	$C_j$	10								pF
Typical Thermal Resistance ( Note 2 )	$R_{\theta JA}$	65								$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65 to +150								$^\circ\text{C}$

- Notes: 1. Measured at 1 MHz and Applied Reverse Voltage of 4.0 Volts D.C.  
2. Mount on Cu-Pad Size 5mm x 5mm on P.C.B.

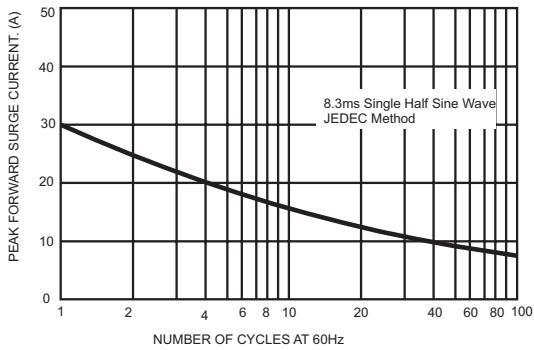
## RATINGS AND CHARACTERISTIC CURVES (1N4001 THRU 1N4007/BY133)



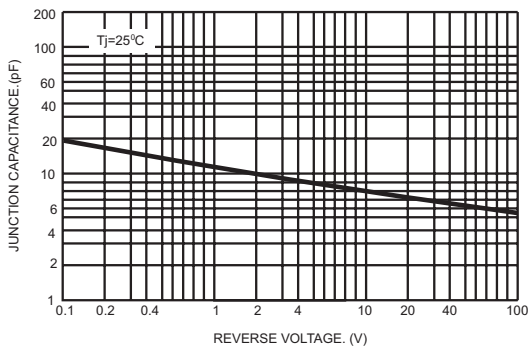
**FIG.2- TYPICAL REVERSE CHARACTERISTICS**



**FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**



**FIG.4- TYPICAL JUNCTION CAPACITANCE**



**FIG.5- TYPICAL FORWARD CHARACTERISTICS**

