

# 1N4001 - 1N4007 BY133

**PRV : 50 - 1300 Volts**  
**Io : 1.0 Ampere**

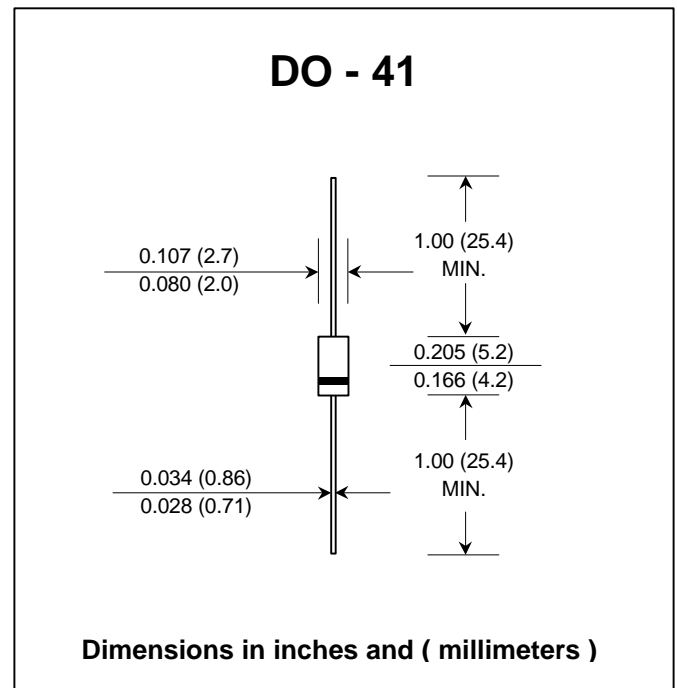
## FEATURES :

- \* High current capability
- \* High surge current capability
- \* High reliability
- \* Low reverse current
- \* Low forward voltage drop
- \* **Pb / RoHS Free**

## MECHANICAL DATA :

- \* Case : DO-41 Molded plastic
- \* Epoxy : UL94V-O rate flame retardant
- \* Lead : Axial lead solderable per MIL-STD-202, Method 208 guaranteed
- \* Polarity : Color band denotes cathode end
- \* Mounting position : Any
- \* Weight : 0.34 gram

## SILICON RECTIFIER DIODES



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

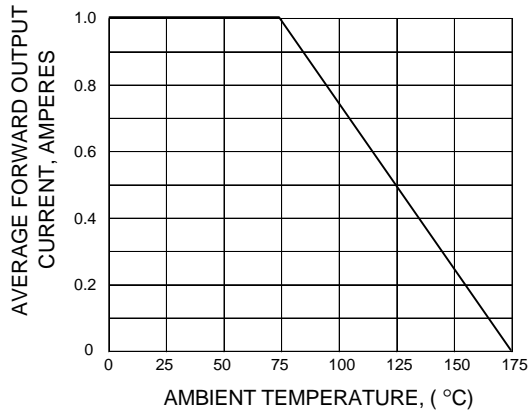
Rating at 25 °C ambient temperature unless otherwise specified.  
Single phase, half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

RATING	SYMBOL	1N4001	1N4002	1N4003	1N4004	1N4005	1N4006	1N4007	BY133	UNIT
Maximum Repetitive 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	1000	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	1300	V
Maximum Average Forward Current 0.375"(9.5mm) Lead Length $T_a = 75\text{ }^\circ\text{C}$	$I_{F(AV)}$	1.0								A
Maximum Peak Forward Surge Current 8.3ms Single half sine wave Superimposed on rated load (JEDEC Method)	$I_{FSM}$	30								A
Maximum Forward Voltage at $I_F = 1.0\text{ Amp.}$	$V_F$	1.1								V
Maximum DC Reverse Current $T_a = 25\text{ }^\circ\text{C}$ at rated DC Blocking Voltage $T_a = 100\text{ }^\circ\text{C}$	$I_R$	5.0								$\mu\text{A}$
	$I_{R(H)}$	50								$\mu\text{A}$
Typical Reverse Recovery Time ( $I_F = 0.5\text{ A}$ , $I_R = 1.0\text{ A}$ , $I_{rr} = 0.25\text{ A.}$ )	$T_{rr}$	2.0								$\mu\text{s}$
Typical Junction Capacitance (Note1)	$C_J$	15								pF
Typical Thermal Resistance (Note2)	$R_{\theta JA}$	26								$^\circ\text{C/W}$
Junction Temperature Range	$T_J$	- 65 to + 175								$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	- 65 to + 175								$^\circ\text{C}$

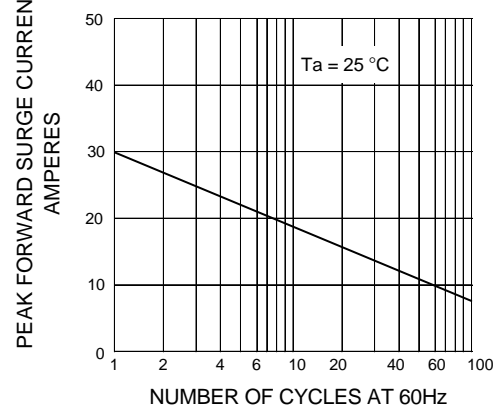
**Notes :** (1) Measured at 1.0 MHz and applied reverse voltage of 4.0VDC  
(2) Thermal resistance from Junction to Ambient at 0.375" (9.5mm) Lead Lengths, P.C. Board Mounted.

## RATING AND CHARACTERISTIC CURVES ( 1N4001 - BY133 )

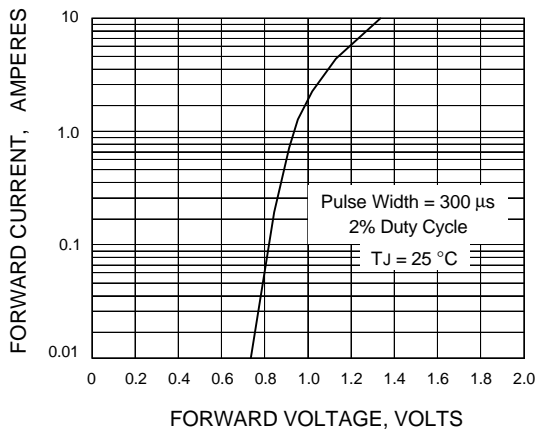
**FIG.1 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



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



**FIG.3 - TYPICAL FORWARD CHARACTERISTICS**



**FIG.4 - TYPICAL REVERSE CHARACTERISTICS**

