



1N4001 THRU 1N4007, BY133

1.0 AMP. Silicon Rectifiers



Voltage Range
50 to 1300 Volts
Current
1.0 Ampere

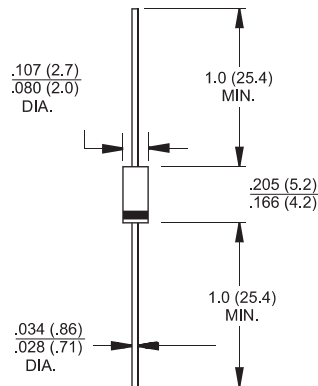
Features

- ✧ Low forward voltage drop
- ✧ High current capability
- ✧ High reliability
- ✧ High surge current capability

Mechanical Data

- ✧ Cases: Molded plastic
- ✧ Epoxy: UL 94V-0 rate flame retardant
- ✧ Lead: Axial leads, 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

DO-41



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	1N4001	1N4002	1N4003	1N4004	1N4005	1N4006	1N4007	BY133	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								uA uA
Maximum Full Load Reverse Current, Full Cycle Average .375" (9.5mm) Lead Length @ $T_A=75^\circ\text{C}$	HT_{IR}	30								uA
Typical Junction Capacitance (Note 1)	C_j	15								pF
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	50								°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150								°C

Notes: 1. Measured at 1 MHz and Applied Reverse Voltage of 4.0 Volts D.C.

2. Thermal Resistance from Junction to Ambient .375" (9.5mm) Lead Length.

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

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

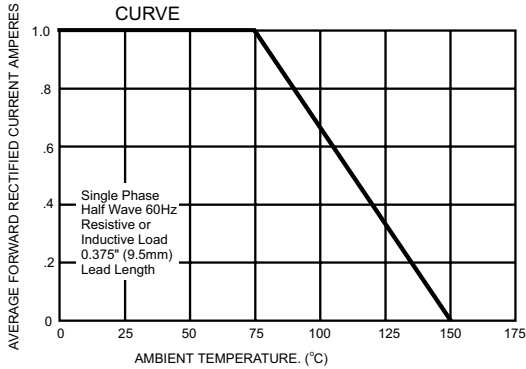


FIG.2- TYPICAL FORWARD CHARACTERISTICS

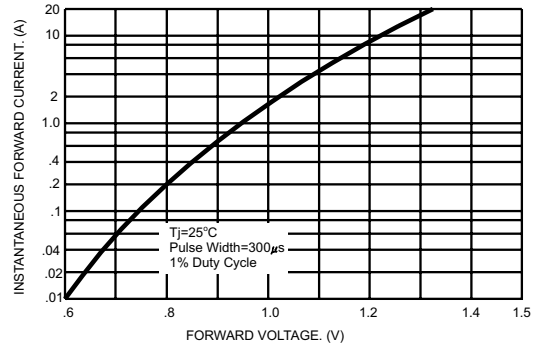


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

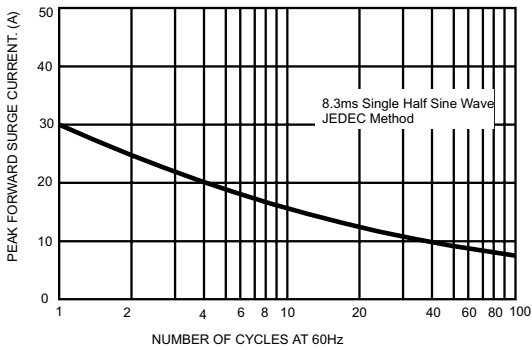


FIG.4- TYPICAL JUNCTION CAPACITANCE

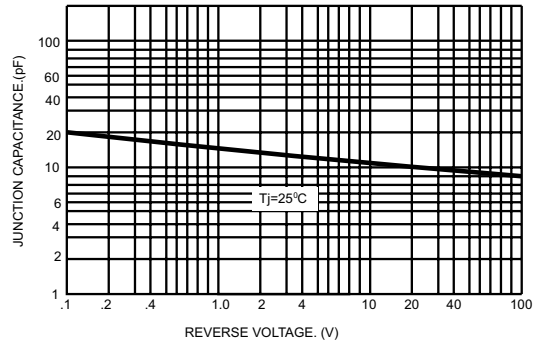


FIG.5- TYPICAL REVERSE CHARACTERISTICS

