SM/1N4001 THRU SM/1N4007, BY133

1.0 AMP. Silicon Rectifiers

Voltage Range
-50 to 1000 Volts
Current
-1.0 Ampere

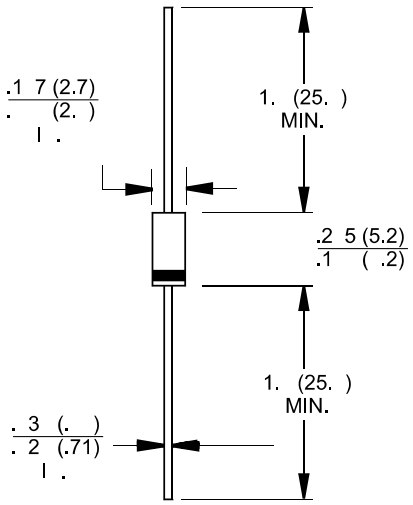
Features

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

Mechanical Data

- Cases:JEDEC D0-41 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: 250°C/10 seconds/.375",(9.5mm) lead lengths at 5 lbs.,(2.3kg) tension
- Weight: 0.35 gram

DO-41



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	1N 4001 SM 4001	1N 4002 SM 4002	1N 4003 SM 4003	1N 4004 SM 4004	1N 4005 SM 4005	1N 4006 SM 4006	1N 4007 SM 4007	BY 133	Units
Maximum Recurrent Peak Reverse Voltage	50	100	200	400	600	800	1000	1300	V
Maximum RMS Voltage	35	70	140	280	420	560	700	910	V
Maximum DC Blocking Voltage	50	100	200	400	600	800	1000	1300	V
Maximum Average Forward Rectified Current .375"(9.5mm) Lead Length @TA = 75°C	1.0								A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	30								A
Maximum Instantaneous Forward Voltage @1.0A	1.0								V
Maximum DC Reverse Current @ TA=25°C at Rated DC Blocking Voltage @ TA=125°C	5.0 50								uA uA
Maximum Full Load Reverse Current ,Full Cycle Average .375"(9.5mm) Lead Length @TL=75°C	30								uA
Typical Junction Capacitance (Note 1)	15								pF
Typical Thermal Resistance R JA (Note 2)	50								°C/W
Operating and Storage Temperature Range TJ ,TSTG	-55 to +125 / -55 to +125								°C

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

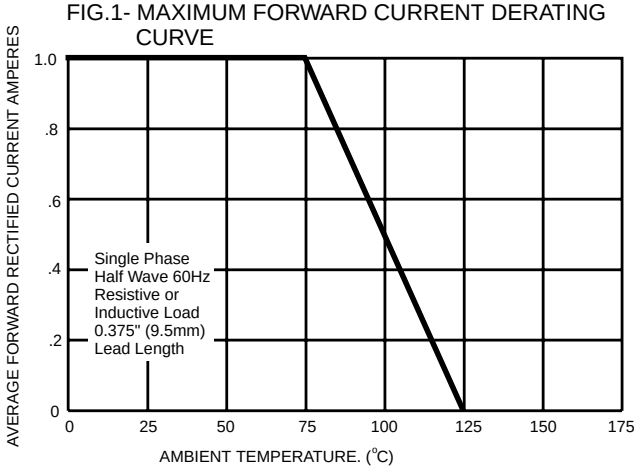


FIG.2- TYPICAL FORWARD CHARACTERISTICS

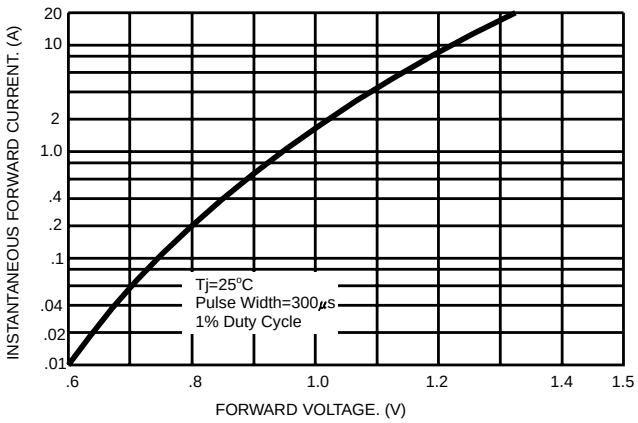


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

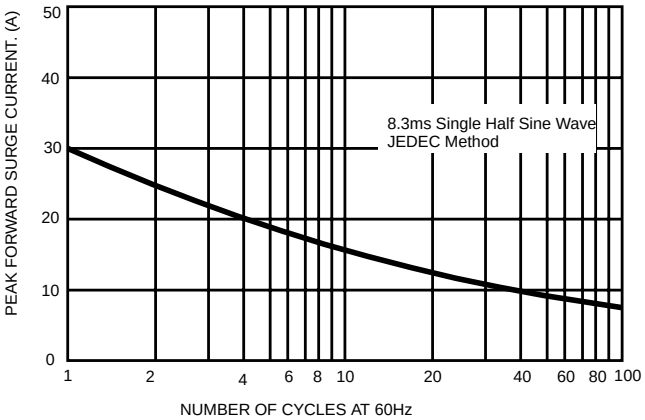


FIG.4- TYPICAL JUNCTION CAPACITANCE

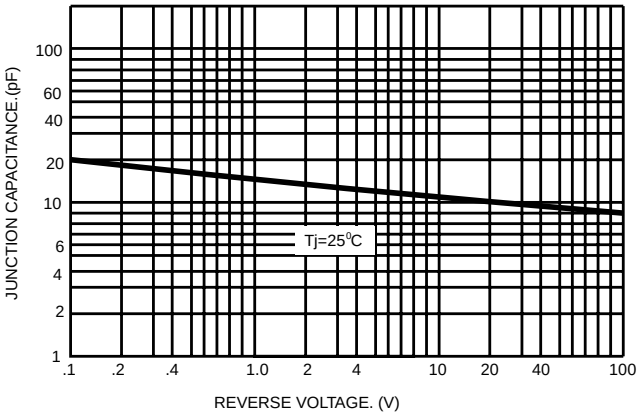


FIG.5- TYPICAL REVERSE CHARACTERISTICS