

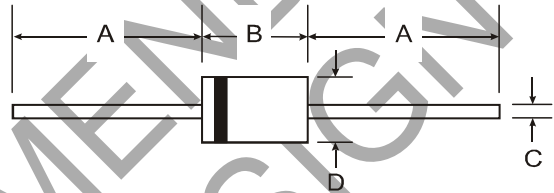


**THE DATASHEET OF  
1N4007-B**



## Features

- Diffused Junction
- High Current Capability and Low Forward Voltage Drop
- Surge Overload Rating to 30A Peak
- Low Reverse Leakage Current
- **Lead Free Finish, RoHS Compliant (Note 3)**



## Mechanical Data

- Case: DO-41
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Finish - Bright Tin. Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Ordering Information: See Page 2
- Marking: Type Number
- Weight: 0.30 grams (Approximate)

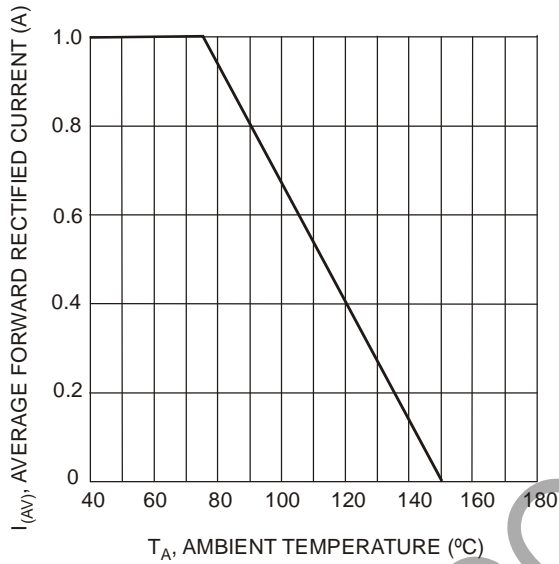
Dim	DO-41 Plastic	
	Min	Max
A	25.40	—
B	4.06	5.21
C	0.71	0.864
D	2.00	2.72
<b>All Dimensions in mm</b>		

## Maximum Ratings and Electrical Characteristics (@T<sub>A</sub> = +25°C unless otherwise specified.)

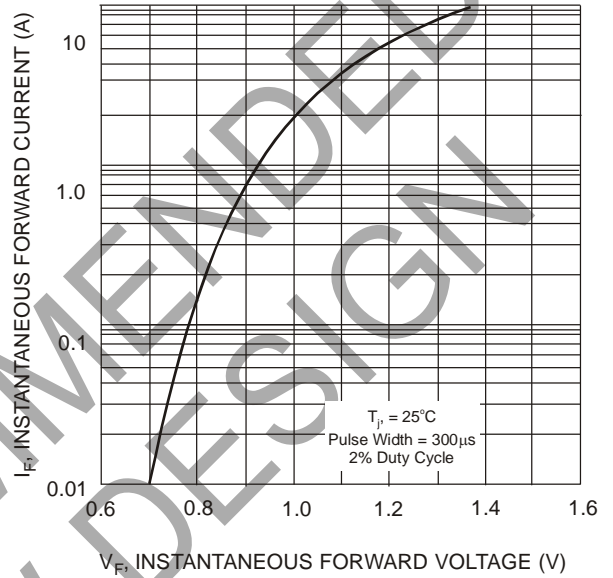
Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

Characteristic	Symbol	1N4001	1N4002	1N4003	1N4004	1N4005	1N4006	1N4007	Unit
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>								V
Working Peak Reverse Voltage	V <sub>RWM</sub>	50	100	200	400	600	800	1000	V
DC Blocking Voltage	V <sub>R</sub>								V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	35	70	140	280	420	560	700	V
Average Rectified Output Current (Note 1) @ T <sub>A</sub> = +75°C	I <sub>O</sub>	1.0							A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	30							A
Forward Voltage @ I <sub>F</sub> = 1.0A	V <sub>FM</sub>	1.0							V
Peak Reverse Current @ T <sub>A</sub> = +25°C	I <sub>RM</sub>	5.0							μA
at Rated DC Blocking Voltage @ T <sub>A</sub> = +100°C		50							
Typical Junction Capacitance (Note 2)	C <sub>j</sub>	15			8				pF
Typical Thermal Resistance Junction to Ambient	R <sub>θJA</sub>	100							K/W
Maximum DC Blocking Voltage Temperature	T <sub>A</sub>	+150							°C
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150							°C

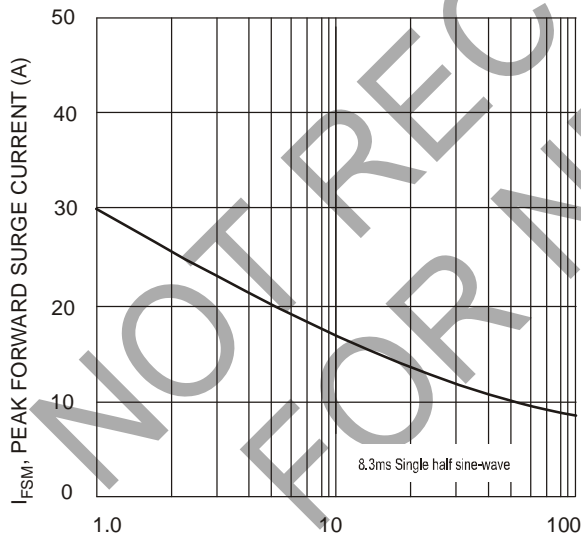
- Notes:
1. Leads maintained at ambient temperature at a distance of 9.5mm from the case.
  2. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.
  3. EU Directive 2002/95/EC (RoHS). All applicable RoHS exemptions applied, see EU Directive 2002/95/EC Annex Notes.



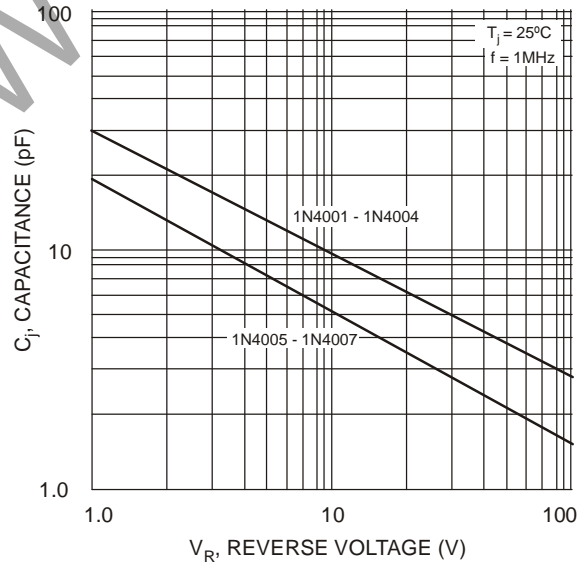
$T_A$ , AMBIENT TEMPERATURE (°C)  
Fig. 1 Forward Current Derating Curve



$V_F$ , INSTANTANEOUS FORWARD VOLTAGE (V)  
Fig. 2 Typical Forward Characteristics



NUMBER OF CYCLES AT 60 Hz  
Fig. 3 Max Non-Repetitive Peak Fwd Surge Current



$V_R$ , REVERSE VOLTAGE (V)  
Fig. 4 Typical Junction Capacitance

### Ordering Information (Note 4)

Device	Packaging	Shipping
1N4001-B	DO-41 Plastic	1K/Bulk
1N4001-T	DO-41 Plastic	5K/Tape & Reel, 13-inch
1N4002-B	DO-41 Plastic	1K/Bulk
1N4002-T	DO-41 Plastic	5K/Tape & Reel, 13-inch
1N4003-B	DO-41 Plastic	1K/Bulk
1N4003-T	DO-41 Plastic	5K/Tape & Reel, 13-inch
1N4004-B	DO-41 Plastic	1K/Bulk
1N4004-T	DO-41 Plastic	5K/Tape & Reel, 13-inch
1N4005-B	DO-41 Plastic	1K/Bulk
1N4005-T	DO-41 Plastic	5K/Tape & Reel, 13-inch
1N4006-B	DO-41 Plastic	1K/Bulk
1N4006-T	DO-41 Plastic	5K/Tape & Reel, 13-inch
1N4007-B	DO-41 Plastic	1K/Bulk
1N4007-T	DO-41 Plastic	5K/Tape & Reel, 13-inch

Note: 4. For packaging details, visit our website at <http://www.diodes.com/datasheets/ap02008.pdf>.

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