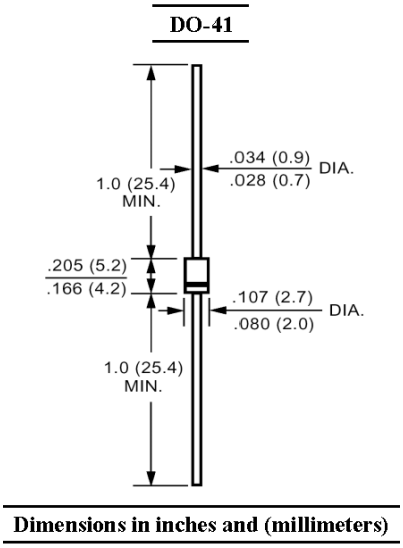
1N4001 THRU 1N4007

General Purpose Plastic Silicon Rectifier
Reverse Voltage – 50 to 1000 V
Forward Current – 1 A

Features

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



Mechanical Data

- Case: Molded plastic, DO-41
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Axial leads, solderable per MIL-STD-202 method 208 guaranteed
- Polarity: Color band denotes cathode end
- Mounting position: Any

Absolute Maximum Ratings and Characteristics

Ratings 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%.

Parameter	Symbols	1N4001	1N4002	1N4003	1N4004	1N4005	1N4006	1N4007	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current 0.375" (9.5 mm) Lead Length at T_A = 75 °C	$I_{(AV)}$	1							A
Peak Forward Surge Current, 8.3 ms Single Half-sine-wave Superimposed on rated load (JEDEC method)	I_{FSM}	30							A
Maximum Forward Voltage at 1 A DC and 25 °C	V_F	1.1							V
Maximum Full Load Reverse Current, Full Cycle Average at 75 °C Ambient	$I_{R(AV)}$	30							μA
Maximum Reverse Current T_A = 25 °C at Rated DC Blocking Voltage T_A = 100 °C	I_R	5 500							μA
Typical Junction Capacitance [1]	C_J	15							pF
Typical Thermal Resistance [2]	$R_{\theta JA}$	50							°C/W
Operating Junction Temperature Range	T_J	- 55 to + 150							°C
Storage Temperature Range	T_{stg}	- 55 to + 150							°C

[1] Measured at 1 MHz and applied reverse voltage of 4 V.
[2] Thermal resistance junction to ambient 0.375" (9.5 mm) lead length P.C.B mounted.

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FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

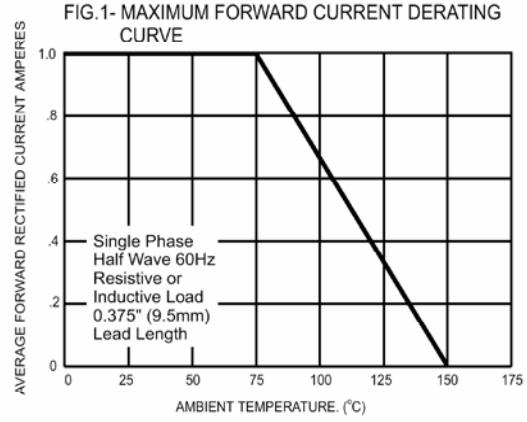

FIG.2- TYPICAL FORWARD CHARACTERISTICS

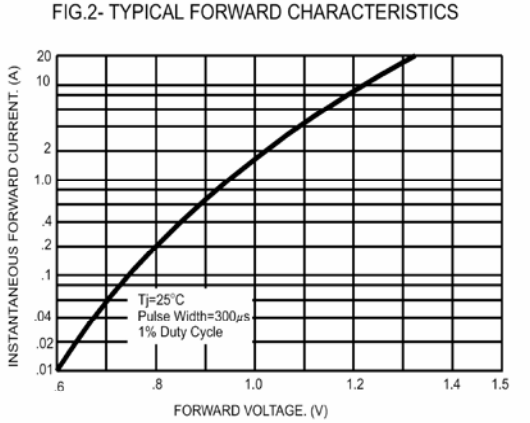

FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

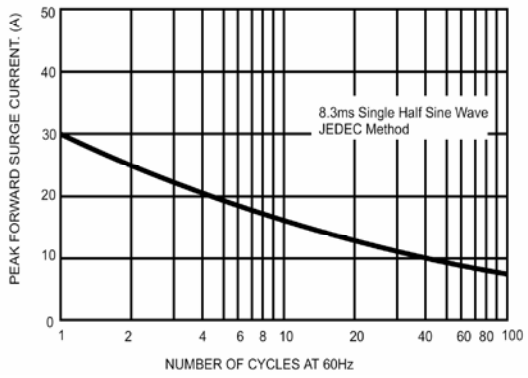

FIG.4- TYPICAL JUNCTION CAPACITANCE

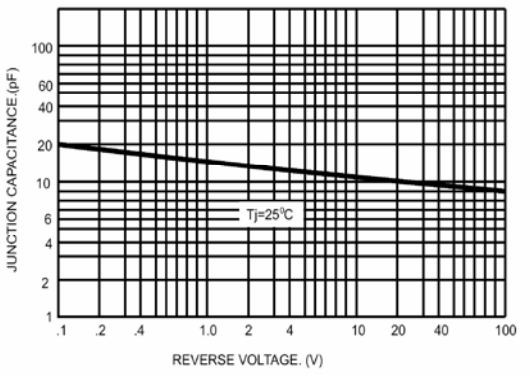

FIG.5- TYPICAL REVERSE CHARACTERISTICS