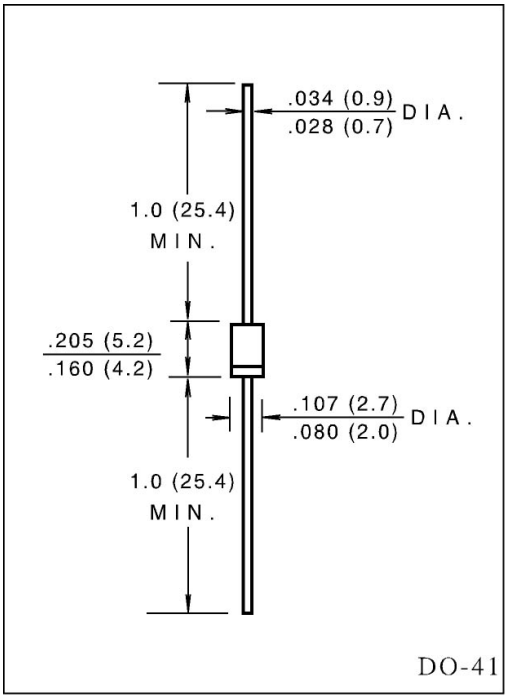
GENERAL PURPOSE SILICON RECTIFIER

1N4001 THRU 1N4007

VOLTAGE RANGE 50 **to** 1000 **Volts**
CURRENT 1.0 **Ampere**

FEATURES

- Low cost construction
- Low forward voltage drop
- Low reverse leakage
- High forward surge current capability.
- High temperature soldering guaranteed: 260℃/10 seconds, 0.375" (9.5mm)lead length at 5 lbs (2.3kg) tension.



MECHANICAL DATA

- Case: transfer molded plastic
- Epoxy: UL94V - 0 rate flame retardant.
- Polarity: Color band denotes cathode end.
- Lead: Plated axial lead, solderable per MIL - STD - 202E method 208C
- Mounting position: Any
- Weight: 0.012 ounce, 0.33grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

	SYMBOLS	1N4001	1N4002	1N4003	1N4004	1N4005	1N4006	1N4007	UNIT
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current, 0.375" (9.5mm) lead length at T_A = 75℃	$I_{(AV)}$	1.0							Amp
Peak Forward Surge Current 8.3ms single half sine - wave superimposed on rated load (JEDEC method)	I_{FSM}	30							Amps
Maximum Instantaneous Forward Voltage at 1.0A	V_F	1.1							Volts
Maximum DC Reverse Current at rated DC blocking voltage T_A = 25℃	I_R	5.0							μA
Maximum DC Reverse Current at rated DC blocking voltage T_A = 100℃	I_R	50							μA
Maximum Full Load Reverse Current, full cycle average 0.375" (9.5mm) lead length at T_L = 75℃	$I_{R(AV)}$	30							μA
Typical Junction Capacitance (Note 1)	C_J	15							pF
Typical Thermal Resistance (Note2)	$R_{\theta JA}$	50							℃/W
Operating and Storage Temperature Range	T_J	(-65 to +175)							℃
Storage Temperature Range	T_{STG}	(-65 to +175)							℃

NOTES:

1. Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts.
2. Thermal Resistance from Junction to Ambient at 0.375" (9.5mm) lead length, P.C. board mounted with 0.2" x 0.2" (5.0 x 5.0mm) copper pads.

RATINGS AND CHARACTERISTIC CURVES IN4001 THRU IN4007

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

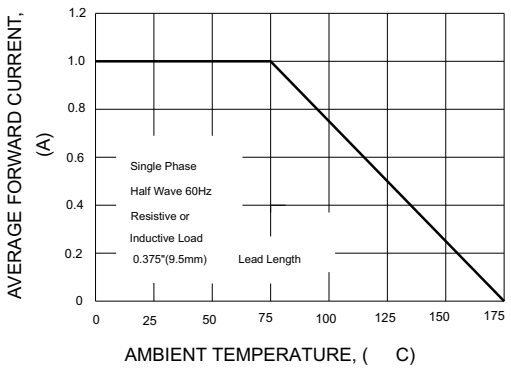


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

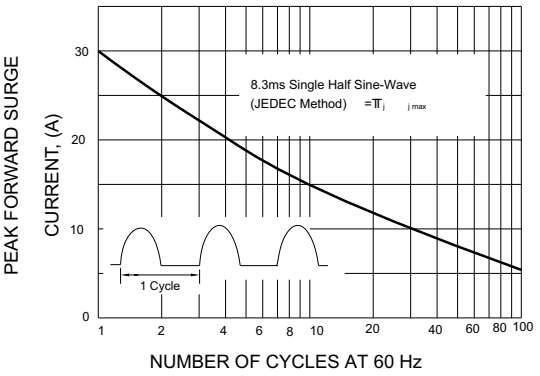


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

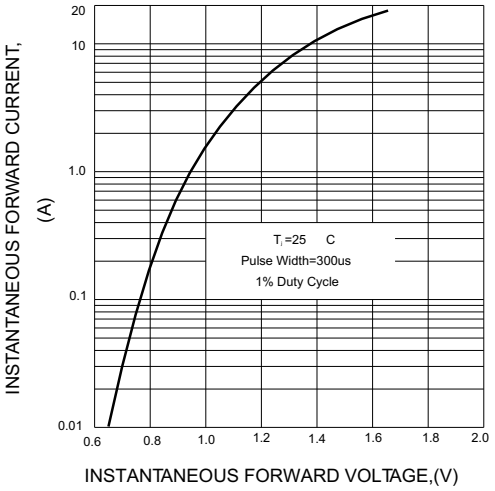


FIG.4-TYPICAL REVERSE CHARACTERISTICS

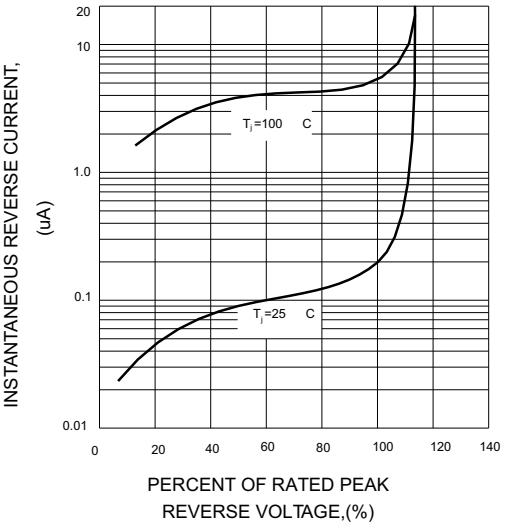


FIG.5-TYPICAL JUNCTION CAPACITANCE