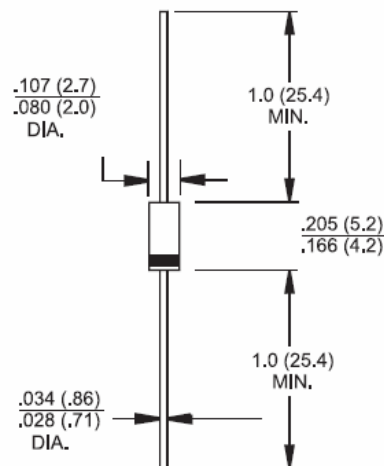


1N4001-1N4007, BY133

1.0 AMPS. Silicon Rectifiers

DO-41



Marking Diagram



1N400X = Specific Device Code
G = Green Compound
Y = Year
WW = Work Week

Features

- ✧ High current capability.
- ✧ High efficiency, Low VF.
- ✧ High surge current capability.
- ✧ Low power loss
- ✧ Green compound with suffix "G" on packing code and Prefix "G" on date code.
- ✧ High reliability grade (AEC Q101 qualified).

Mechanical Data

- ✧ Cases: Molded plastic
- ✧ Epoxy: UL 94V-O rate flame retardant
- ✧ Lead: Pure tin plated, lead free, solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: Color band denotes cathode.
- ✧ High temperature soldering guaranteed: 260°C/10 seconds
- ✧ .375", (9.5mm) lead lengths at 5 lbs., (2.3kg) tension
- ✧ Weight: 0.35 gram

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	701	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
Rating for Fusing ($t < 8.3\text{ms}$)	I^2t	3.7								A ² sec
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 50.0								uA
Maximum Full load Reverse Current, Full cycle Average .375"(9.5mm) Lead Length @ $T_A=75^\circ\text{C}$	HTIR	30								nS
Typical Junction Capacitance (Note 1)	C_j	10								pF
Typical Thermal Resistance (Note 2)	$R\theta_{JA}$ $R\theta_{JC}$ $R\theta_{JL}$	65 6 15								°C/W
Operating Temperature Range	T_J	-65 to +150								°C
Storage Temperature Range	T_{STG}	-65 to +150								°C

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

2. Mount on Cu-Pad Size 5mm x 5mm on P.C.B.

RATINGS AND CHARACTERISTIC CURVES (1N4001-1N4007, BY133)

FIG. 1- MAXIMUM FORWARD CURRENT DERATING

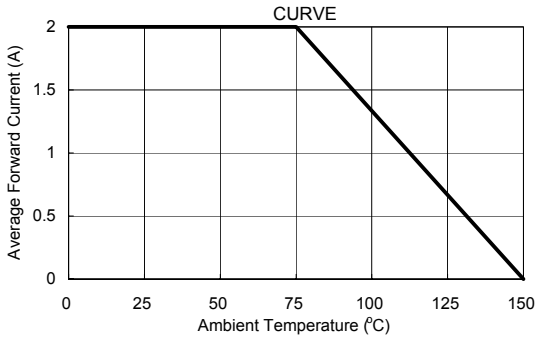


FIG. 2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

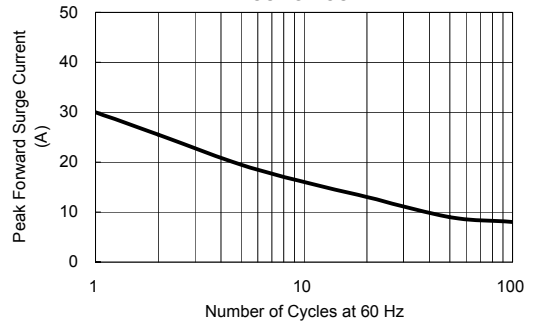


FIG. 3- TYPICAL FORWARD CHARACTERISTICS

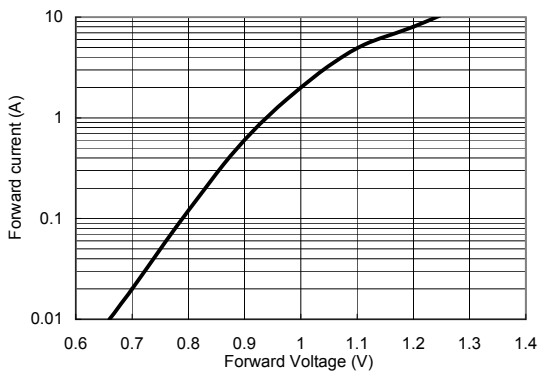


FIG. 4- TYPICAL REVERSE CHARACTERISTICS

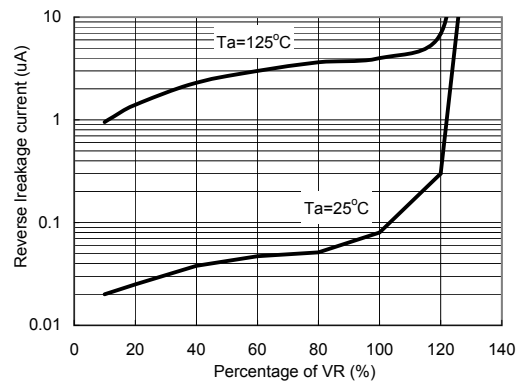


Fig. 5- TYPICAL JUNCTION CAPACITANCE

