1N4001 - 1N4007, BY133
1.0 AMP. Silicon Rectifiers

Features
✦ High efficiency, Low VF
✦ High current capability
✦ High reliability
✦ High surge current capability
✦ Low power loss
✦ Easily cleaned with Freon, Alcohol, Isopropyl and similar solvents

Mechanical Data
✦ Cases: Molded plastic
✦ Epoxy: UL 94V-0 rate flame retardant
✦ Polarity: Color band denotes cathode end
✦ 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%

<table>
<thead>
<tr>
<th>Type Number</th>
<th>Symbol</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Recurrent Peak Reverse Voltage</td>
<td>$V_{RRM}$</td>
<td>V</td>
</tr>
<tr>
<td>Maximum RMS Voltage</td>
<td>$V_{RMS}$</td>
<td>V</td>
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<tr>
<td>Maximum DC Blocking Voltage</td>
<td>$V_{DC}$</td>
<td>V</td>
</tr>
<tr>
<td>Maximum Average Forward Rectified Current .375&quot;(9.5mm) Lead Length @T$_A$ = 75 °C</td>
<td>$I_{(AV)}$</td>
<td>A</td>
</tr>
<tr>
<td>Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)</td>
<td>$I_{FSM}$</td>
<td>A</td>
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<tr>
<td>Maximum Instantaneous Forward Voltage @1.0A</td>
<td>$V_F$</td>
<td>V</td>
</tr>
<tr>
<td>Maximum DC Reverse Current @ T$_A$=25 °C at Rated DC Blocking Voltage @T$_A$=125 °C</td>
<td>$I_{R}$</td>
<td>uA</td>
</tr>
<tr>
<td>Maximum Full Load Reverse Current .Full Cycle Average .375&quot;(9.5mm) Lead Length @T$_A$=75 °C</td>
<td>$HT_{IR}$</td>
<td>uA</td>
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<tr>
<td>Typical Junction Capacitance ( Note 1 )</td>
<td>$C_J$</td>
<td>pF</td>
</tr>
<tr>
<td>Typical Thermal Resistance ( Note 2 )</td>
<td>$R_{θJA}$</td>
<td>°C/W</td>
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<tr>
<td>Operating and Storage Temperature Range</td>
<td>$T_J$, $T_{STG}$</td>
<td>-65 to +150 °C</td>
</tr>
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</table>

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 THRU 1N4007/BY133)

FIG.1 - MAXIMUM FORWARD CURRENT DERATING CURVE

FIG.2 - TYPICAL REVERSE CHARACTERISTICS

FIG.3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

FIG.4 - TYPICAL JUNCTION CAPACITANCE

FIG.5 - TYPICAL FORWARD CHARACTERISTICS

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