

# 1N4001 - 1N4007 General Purpose Rectifiers

## Features

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



**DO-41**  
COLOR BAND DENOTES CATHODE

## Absolute Maximum Ratings \* $T_A = 25^\circ\text{C}$ unless otherwise noted

| Symbol      | Parameter  | Value       |      |      |      |      |      |      | Units                  |
|-------------|--|-------------|------|------|------|------|------|------|------------------------|
|             |  | 4001        | 4002 | 4003 | 4004 | 4005 | 4006 | 4007 |                        |
| $V_{RRM}$   | Peak Repetitive Reverse Voltage  | 50          | 100  | 200  | 400  | 600  | 800  | 1000 | V                      |
| $I_{F(AV)}$ | Average Rectified Forward Current<br>.375 " lead length @ $T_A = 75^\circ\text{C}$ | 1.0         |      |      |      |      |      |      | A                      |
| $I_{FSM}$   | Non-Repetitive Peak Forward Surge Current<br>8.3ms Single Half-Sine-Wave           | 30          |      |      |      |      |      |      | A                      |
| $I^2t$      | Rating for Fusing ( $t < 8.3\text{ms}$ )   | 3.7         |      |      |      |      |      |      | $\text{A}^2\text{sec}$ |
| $T_{STG}$   | Storage Temperature Range  | -55 to +175 |      |      |      |      |      |      | $^\circ\text{C}$       |
| $T_J$       | Operating Junction Temperature   | -55 to +175 |      |      |      |      |      |      | $^\circ\text{C}$       |

\* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

## Thermal Characteristics

| Symbol          | Parameter                               | Value | Units                     |
|-----------------|---|-------|---------------------------|
| $P_D$           | Power Dissipation                       | 3.0   | W                         |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient | 50    | $^\circ\text{C}/\text{W}$ |

## Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

| Symbol   | Parameter   | Value                     | Units         |               |
|----------|---|---------------------------|---------------|---------------|
| $V_F$    | Forward Voltage @ 1.0A  | 1.1                       | V             |               |
| $I_{rr}$ | Maximum Full Load Reverse Current, Full Cycle<br>$T_A = 75^\circ\text{C}$ | 30                        | $\mu\text{A}$ |               |
| $I_R$    | Reverse Current @ Rated $V_R$   | $T_A = 25^\circ\text{C}$  | 5.0           | $\mu\text{A}$ |
|          |   | $T_A = 100^\circ\text{C}$ | 50            | $\mu\text{A}$ |
| $C_T$    | Total Capacitance $V_R = 4.0\text{V}$ , $f = 1.0\text{MHz}$               | 15                        | pF            |               |

### Typical Performance Characteristics

Figure 1. Forward Current Derating Curve

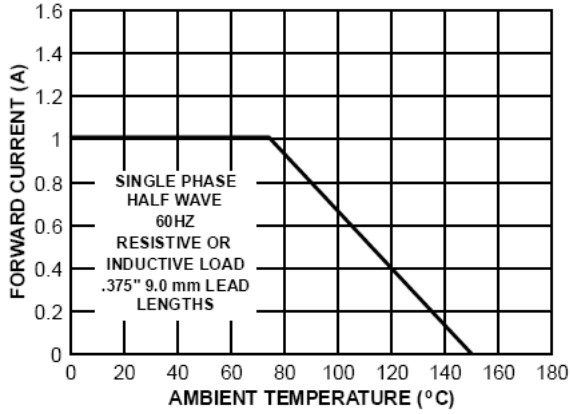


Figure 2. Forward Characteristics

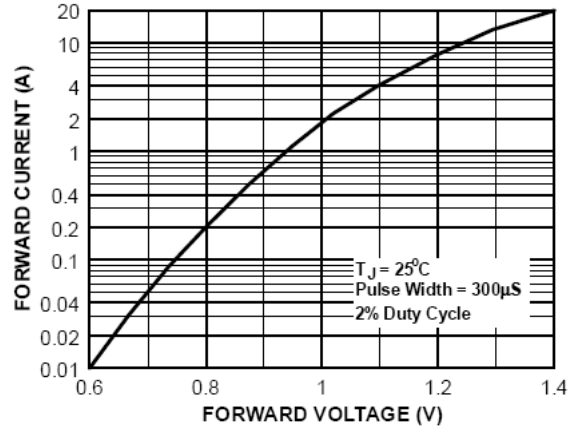


Figure 3. Non-Repetitive Surge Current

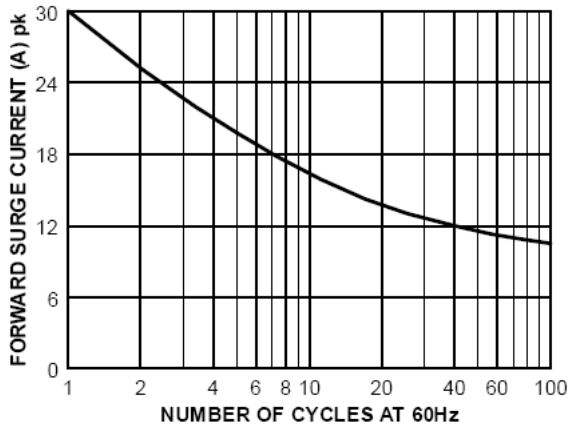
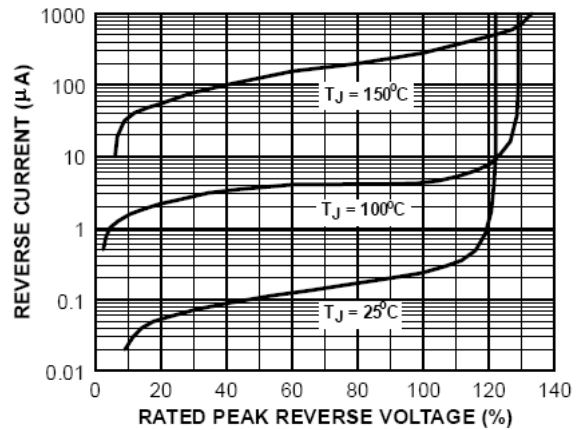








Figure 4. Reverse Characteristics





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- |  |   |  |   |
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| CorePOWER™   | Green FPS™  | QFET®  | TinyBuck™   |
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