

## General Purpose Rectifier

### Features

- High efficiency
- High current capability
- High reliability
- High surge current capability
- Low power loss
- Glass passivated chip junction
- Solder dip 275 °C max. 7 s, per JESD 22-B106

### Typical Applications

For use in general purpose rectification of power supplies, inverters, converters, and freewheeling diodes for consumer, and telecommunication.

### Mechanical Data

- Package: DO-41
- Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102
  - Polarity: Color band denotes cathode end

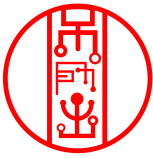


### ■ Maximum Ratings (Ta=25°C Unless otherwise specified)

| PARAMETER                                                                   | Symbol           | Unit             | 1N400<br>1 | 1N400<br>2 | 1N400<br>3 | 1N400<br>4 | 1N400<br>5 | 1N400<br>6 | 1N400<br>7 |
|-----------------------------------------------------------------------------|------------------|------------------|------------|------------|------------|------------|------------|------------|------------|
| Maximum Repetitive Peak Reverse Voltage                                     | $V_{RRM}$        | V                | 50         | 100        | 200        | 400        | 600        | 800        | 1000       |
| Maximum RMS Voltage                                                         | $V_{RMS}$        | V                | 35         | 70         | 140        | 280        | 420        | 560        | 700        |
| Maximum DC blocking Voltage                                                 | $V_{DC}$         | V                | 50         | 100        | 200        | 400        | 600        | 800        | 1000       |
| Average Forward Current<br>@Half-sine wave, Resistance load, Tc(Fig.1)      | $I_o$            | A                | 1.0        |            |            |            |            |            |            |
| Forward Surge Current (Non-repetitive)<br>@60HZ sine wave, 1 cycle, Ta=25°C | $I_{FSM}$        | A                | 30         |            |            |            |            |            |            |
| Current squared time<br>@1ms≤t.3≤ms Ta=25°C, Rating of per diode            | $I^2t$           | A <sup>2</sup> s | 3.7        |            |            |            |            |            |            |
| Thermal Resistance(Typical)<br>@Between junction and case                   | $R_{\theta J-A}$ | °C/W             | 60         |            |            |            |            |            |            |
| Storage Temperature                                                         | $T_{stg}$        | °C               | -55 ~ +150 |            |            |            |            |            |            |
| Junction Temperature                                                        | $T_j$            | °C               | -55 ~ +150 |            |            |            |            |            |            |

### ■ Electrical Characteristics (Ta=25°C Unless otherwise specified)

| PARAMETER            | Symbol    | Unit    | Conditions                        | 1N400<br>1 | 1N400<br>2 | 1N400<br>3 | 1N400<br>4 | 1N400<br>5 | 1N400<br>6 | 1N400<br>7 |
|----------------------|-----------|---------|-----------------------------------|------------|------------|------------|------------|------------|------------|------------|
| Peak Forward Voltage | $V_{FM}$  | V       | $I_F = 1.0A$                      | 1.1        |            |            |            |            |            |            |
| Peak Reverse Current | $I_{RRM}$ | $\mu A$ | $V_R = V_{DC} @ Ta = 25^\circ C$  | 2.5        |            |            |            |            |            |            |
|                      |           |         | $V_R = V_{DC} @ Ta = 125^\circ C$ | 50         |            |            |            |            |            |            |



## ■ Characteristics (Typical)

FIG.1:  $I_o$ - $T_a$  Curve

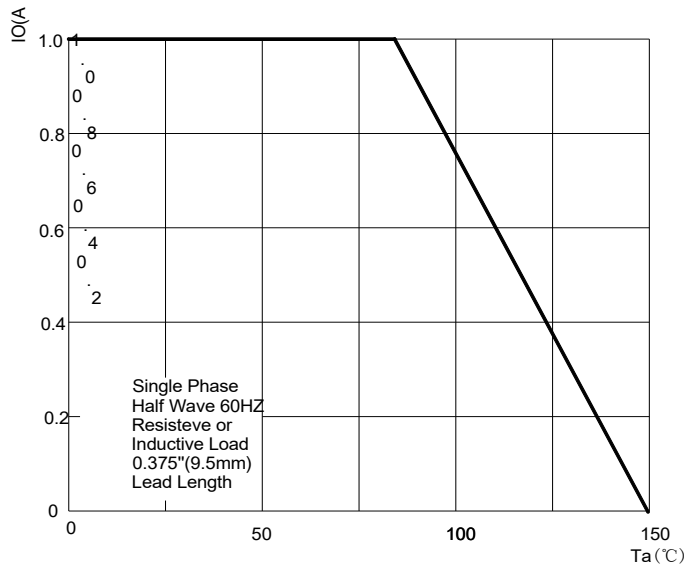


FIG.2: Forward Surge Current Capability

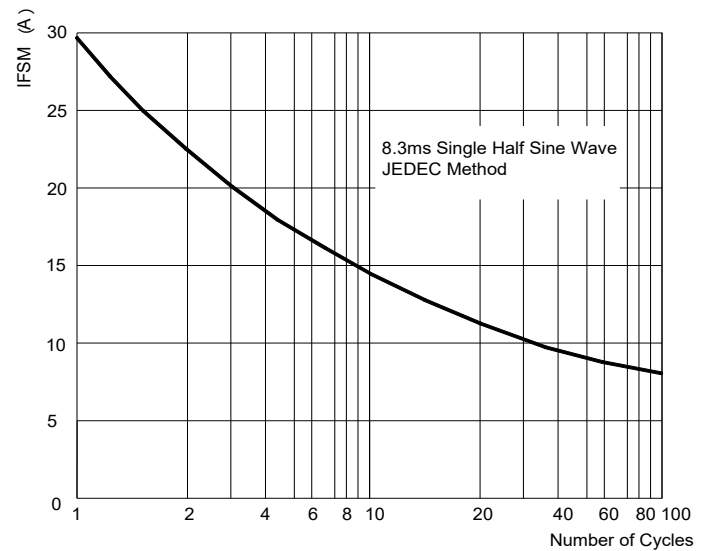


FIG.3: Forward Voltage

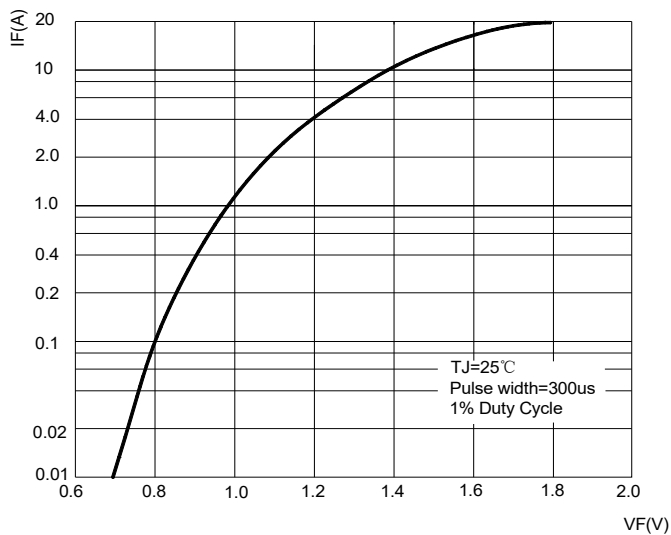
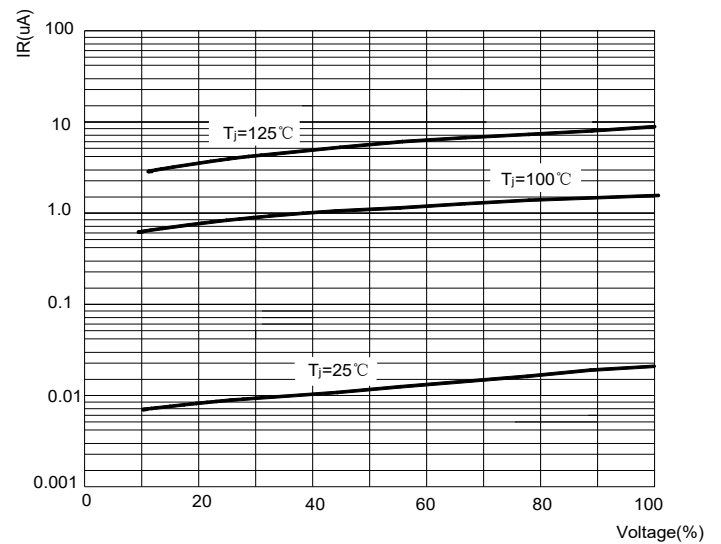
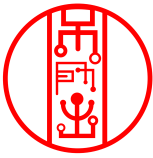


FIG.4: Typical Reverse Characteristics





# 1N4001 THRU 1N4007

## ■ Ordering Information (Example)

| PREFERED           | PACKAGE CODE | MINIMUM package(PCS) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|--------------------|--------------|----------------------|-------------------------|----------------------------|---------------|
| 1N4001 THRU 1N4007 | DO-41        | 5000                 | 5000                    | 50000                      | Ammo box      |

## ■ Outline Dimensions

