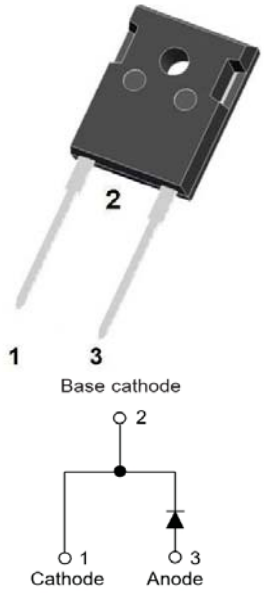
# General Purpose Rectifier Diodes




## Features

- High surge forward current capability
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability
- Solder dip 275 °C max. 7 s, per JESD 22-B106

## Typical Application

- Input rectification

## Mechanical Data

- **Package**: TO-247AC
  Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals**: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity**: As marked

## ■Maximum Ratings (Tj=25℃ Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | 90EPS22 |
|---|---|---|---|
| Device marking code | | | 90EPS22 |
| Maximum Repetitive Peak Reverse Voltage | $V_{RRM}$ | V | 2200 |
| Maximum RMS Voltage | $V_{RMS}$ | V | 1540 |
| Maximum DC Blocking Voltage | $V_{DC}$ | V | 2200 |
| Average Rectified Output Current @60Hz half sine-wave, R-load, Tc (FIG.1) | Io | A | 90 |
| Surge(Non-repetitive) Forward Current @10ms half sine-wave, 1 cycle, Tj=25℃ | $I_{FSM}$ | A | 1200 |
| Current Squared Time @1ms≤t≤10ms Tj=25℃ | $I^2t$ | $A^2s.$ | 5976 |
| Storage Temperature | $T_{stg}$ | ℃ | -55 ~ +150 |
| Junction Temperature | Tj | ℃ | -55 ~ +150 |

## ■Electrical Characteristics (Tj=25℃ Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | TEST CONDITIONS | Min | Typ | Max |
|---|---|---|---|---|---|---|
| Instantaneous forward voltage drop per diode | $V_{FM}$ | V | $I_{FM}$=45.0A | | 1.05 | 1.2 |
| | | | $I_{FM}$=90.0A | - | 1.2 | 1.5 |
| Maximum DC reverse current at rated DC blocking voltage per diode | $I_R$ | uA | $V_{RM}=V_{RRM}$ Tj=25℃ | - | - | 10 |
| | | | $V_{RM}=V_{RRM}$ Tj=125℃ | - | - | 1000 |
| Junction Capacitance | Cj | pF | 1MHz and Applied on 4.0VD.C | - | 295 | - |

## ■Thermal Characteristics （$T_a$=25℃ Unless otherwise specified）

| PARAMETER | SYMBOL | UNIT | 90EPS22 |
|---|---|---|---|
| Typical Thermal Resistance Between junction and case | $R_{\theta J-C}$ | ℃/W | 0.2 |

## ■Characteristics (Typical)

FIG.1: Io-TC Curve

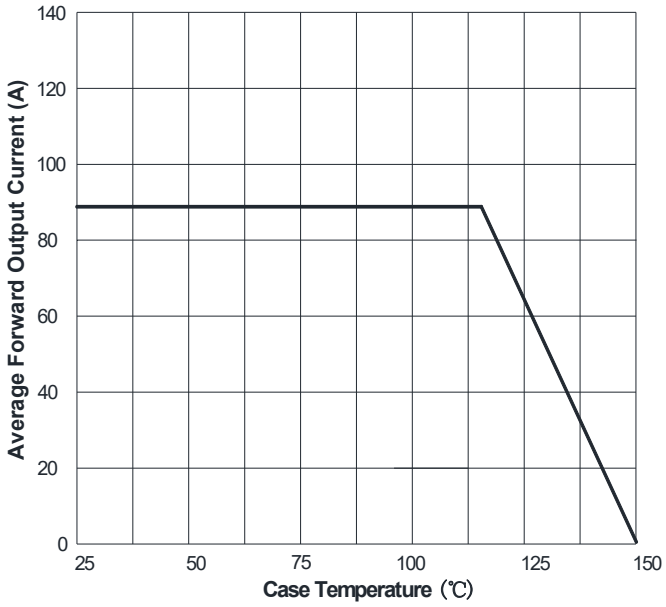



FIG2:Surge Forward Current Capability

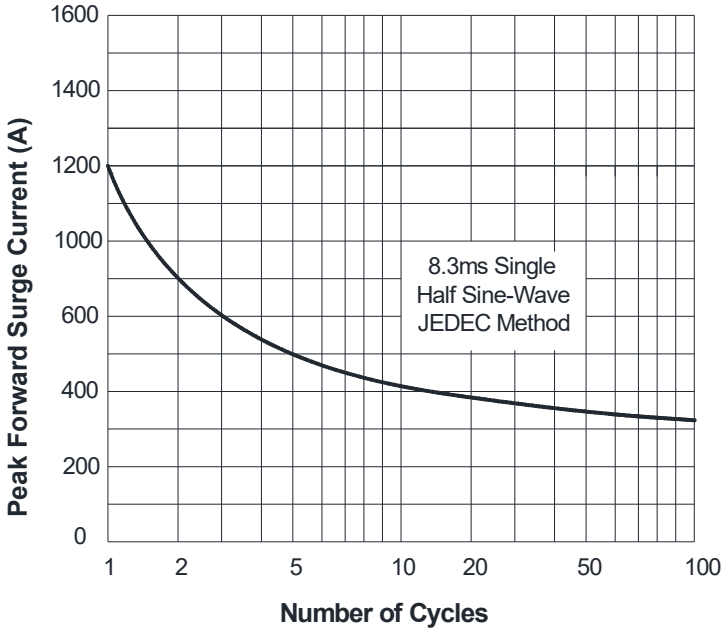



FIG3: Typical Forward Voltage

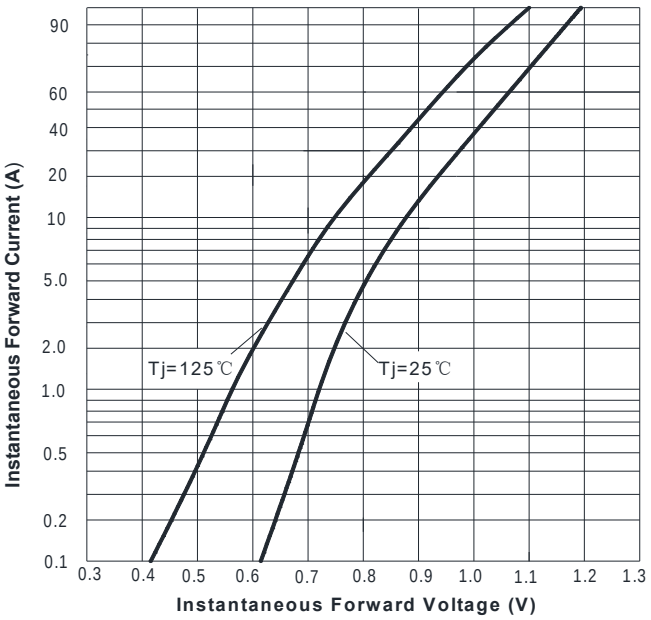
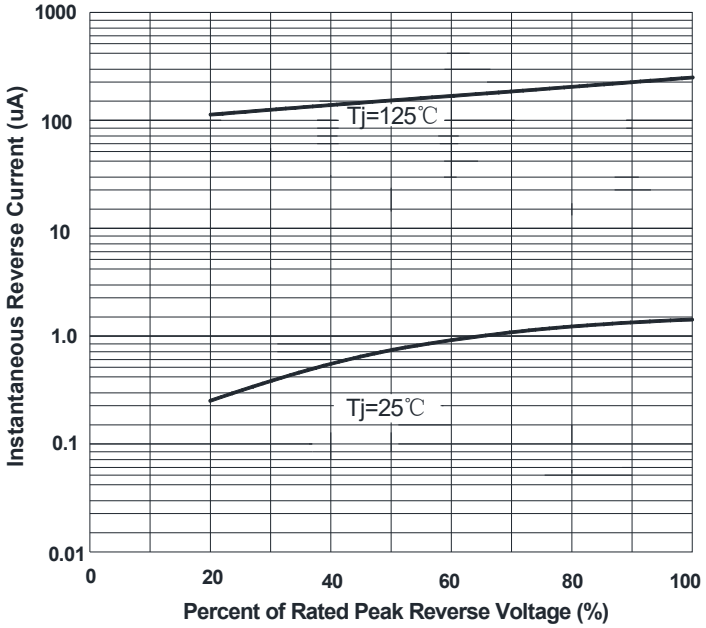
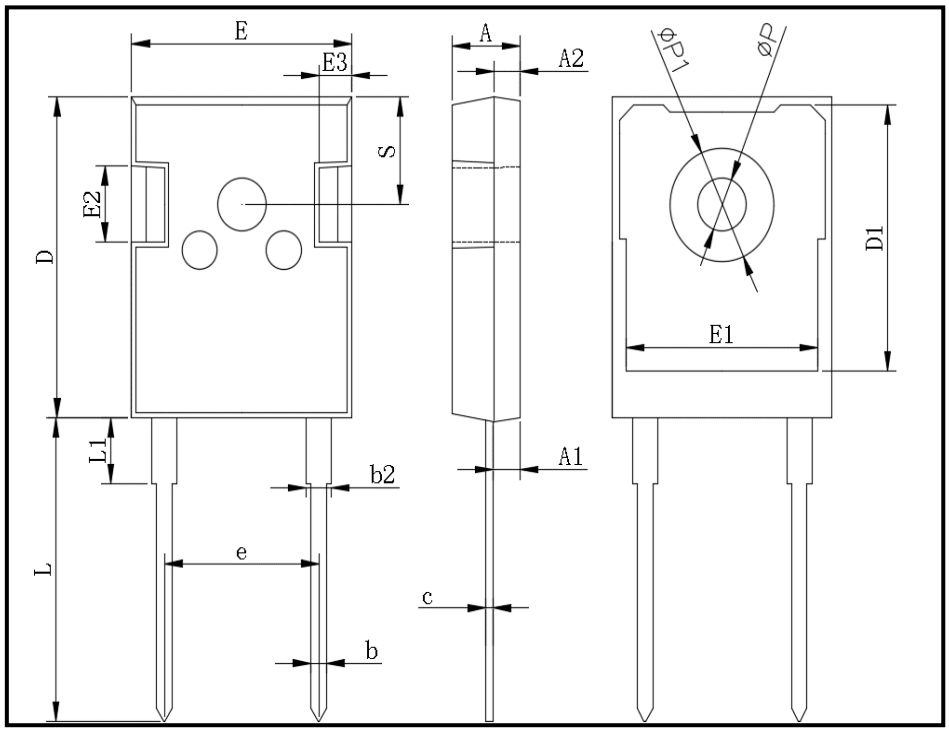



FIG.4: Typical Reverse Characteristics



## ■Outline Dimensions




| TO-247AC | | |
|---|---|---|
| Dim | Min | Max |
| A | 4.80 | 5.20 |
| A1 | 2.21 | 2.61 |
| A2 | 1.85 | 2.15 |
| b | 1.11 | 1.36 |
| b2 | 1.91 | 2.21 |
| c | 0.51 | 0.75 |
| D | 20.70 | 21.30 |
| D1 | 16.25 | 16.85 |
| E | 15.50 | 16.10 |
| E1 | 13.00 | 13.60 |
| E2 | 4.80 | 5.20 |
| E3 | 2.30 | 2.70 |
| e | 10.88BSC | |
| L | 19.62 | 20.22 |
| L1 | - | 4.30 |
| ϕP | 3.40 | 3.80 |
| ϕP1 | - | 7.30 |
| S | 6.15BSC | |

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