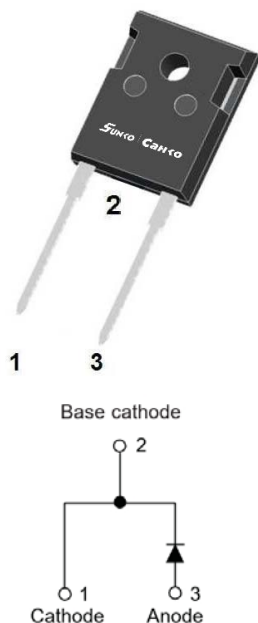


## General Purpose Rectifier Diodes



### 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, -compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** As marked

### ■Maximum Ratings (T<sub>j</sub>=25°C Unless otherwise specified)

| PARAMETER                                                                                    | SYMBOL           | UNIT              | 60EPS22    |
|----------------------------------------------------------------------------------------------|------------------|-------------------|------------|
| Device marking code                                                                          |                  |                   | 60EPS22    |
| Maximum Repetitive Peak Reverse Voltage                                                      | V <sub>RRM</sub> | V                 | 2200       |
| Maximum RMS Voltage                                                                          | V <sub>RMS</sub> | V                 | 1540       |
| Maximum DC Blocking Voltage                                                                  | V <sub>DC</sub>  | V                 | 2200       |
| Average Rectified Output Current<br>@60Hz half sine-wave, R-load, T <sub>c</sub> (FIG.1)     | I <sub>o</sub>   | A                 | 60         |
| Surge(Non-repetitive) Forward Current<br>@60Hz half sine-wave, 1 cycle, T <sub>j</sub> =25°C | I <sub>FSM</sub> | A                 | 800        |
| Current Squared Time @1ms≤t≤10ms T <sub>j</sub> =25°C                                        | I <sup>2</sup> t | A <sup>2</sup> s. | 2656       |
| Storage Temperature                                                                          | T <sub>stg</sub> | °C                | -55 ~ +150 |
| Junction Temperature                                                                         | T <sub>j</sub>   | °C                | -55 ~ +150 |

### ■Electrical Characteristics (T<sub>j</sub>=25°C Unless otherwise specified)

| PARAMETER                                                 | SYMBOL            | UNIT | TEST CONDITIONS                                            | Min | Typ  | Max  |
|-----------------------------------------------------------|-------------------|------|------------------------------------------------------------|-----|------|------|
| Instantaneous forward voltage drop per diode              | V <sub>FM</sub>   | V    | I <sub>FM</sub> =30.0A                                     | 0.7 | 1.05 | 1.30 |
|                                                           |                   |      | I <sub>FM</sub> =60.0A                                     | -   | 1.22 | 1.50 |
| DC reverse current at rated DC blocking voltage per diode | I <sub>RRM1</sub> | uA   | V <sub>RM</sub> =V <sub>RRM</sub><br>T <sub>j</sub> =25°C  | -   | 0.33 | 5    |
|                                                           | I <sub>RRM2</sub> |      | V <sub>RM</sub> =V <sub>RRM</sub><br>T <sub>j</sub> =125°C | -   | -    | 500  |
| Junction Capacitance                                      | C <sub>j</sub>    | pF   | 1MHz and Applied on 4.0VD.C                                | -   | 193  | -    |

■ Thermal Characteristics ( $T_a=25^{\circ}\text{C}$  Unless otherwise specified)

| PARAMETER                  |                              | SYMBOL           | UNIT                 | 60EPS22 |
|----------------------------|------------------------------|------------------|----------------------|---------|
| Typical Thermal Resistance | Between junction and ambient | $R_{\theta J-A}$ | $^{\circ}\text{C/W}$ | 15      |
|                            | Between junction and case    | $R_{\theta J-C}$ |                      | 1.0     |

■ Characteristics (Typical)

FIG.1:  $I_o$ -TC Curve

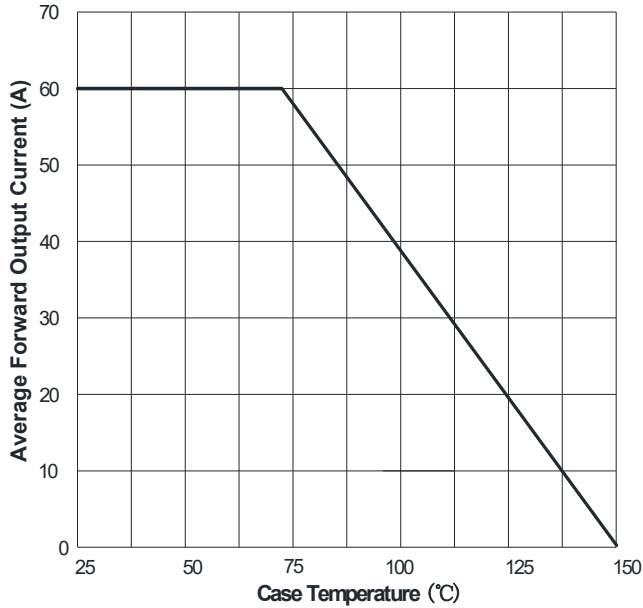


FIG.2: Surge Forward Current Capability

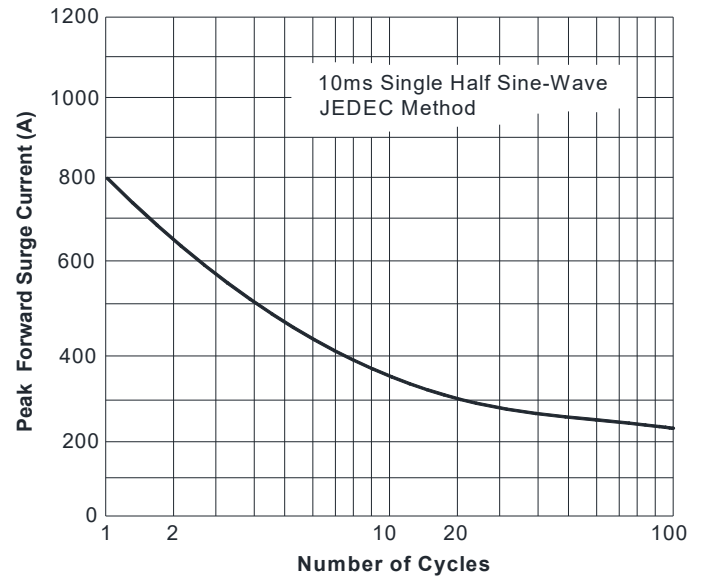


FIG.3: Typical Forward Voltage

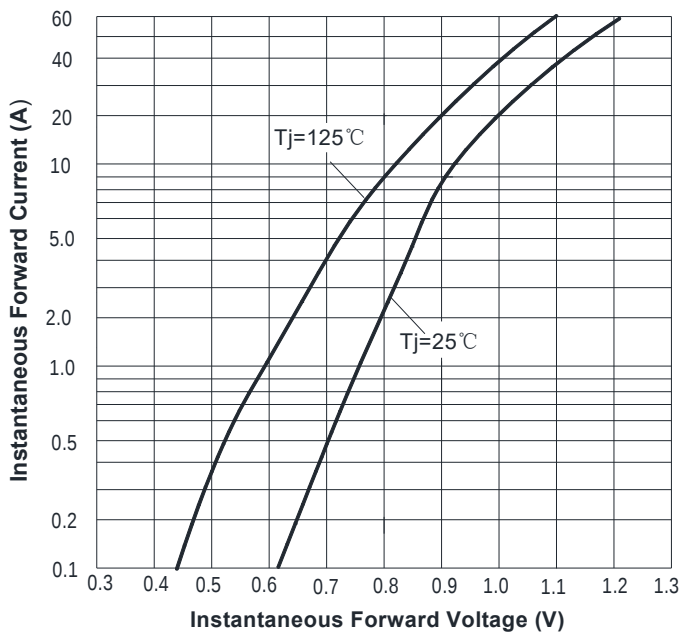
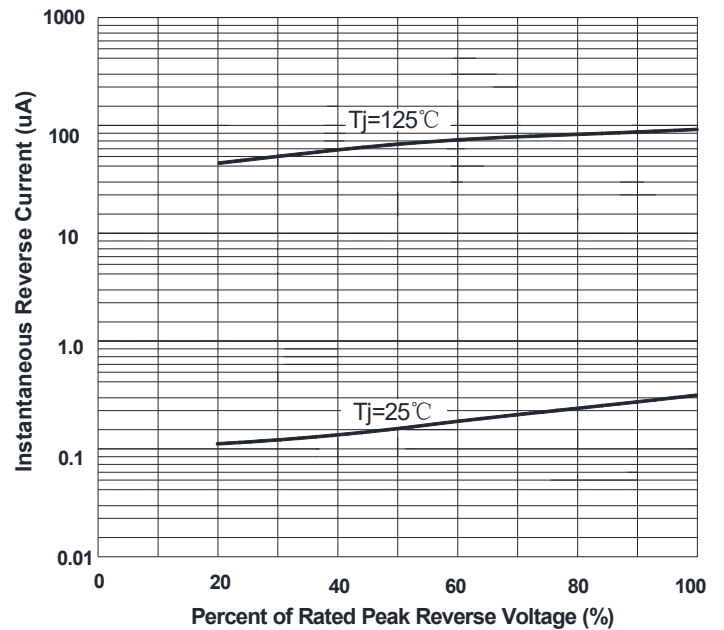
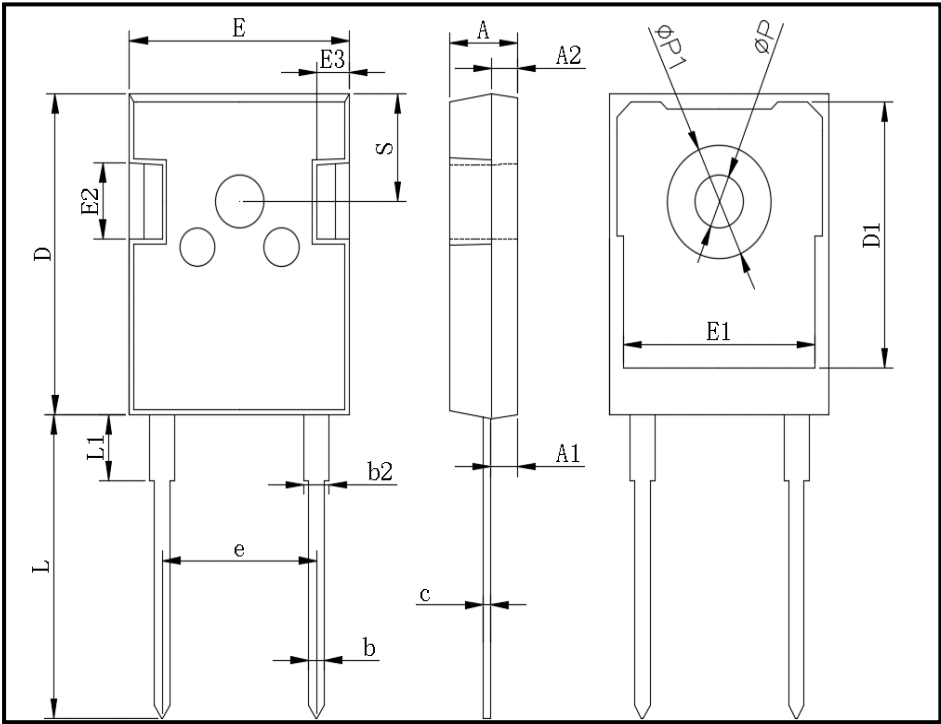


FIG.4: Typical Reverse Characteristics



■Outline Dimensions



| TO-247AC  |           |       |
|-----------|-----------|-------|
| Dim       | Min       | Max   |
| A         | 4.80      | 5.20  |
| A1        | 2.21      | 2.61  |
| A2        | 1.85      | 2.15  |
| b         | 1.00      | 1.40  |
| b2        | 1.91      | 2.21  |
| c         | 0.50      | 0.70  |
| 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         | 10.88 TYP |       |
| L         | 19.62     | 20.22 |
| L1        | -         | 4.30  |
| $\phi P$  | 3.40      | 3.80  |
| $\phi P1$ | -         | 7.30  |
| S         | 6.15 TYP  |       |

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