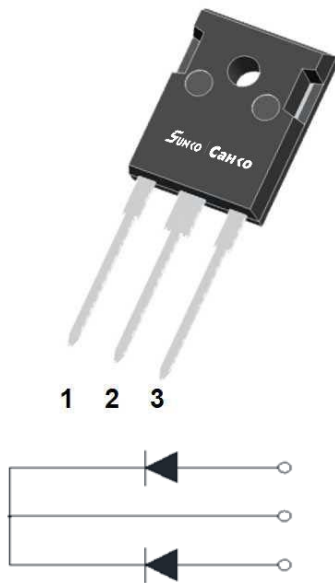


## Schottky Diodes



### Features

- High frequency operation
- 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 Applications

Typical applications are in switching power supplies, converters, freewheeling diodes, and reverse battery protection.

### Mechanical Data

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

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

| PARAMETER                                                                                   | SYMBOL           | UNIT             | MBR3060PT  |
|---------------------------------------------------------------------------------------------|------------------|------------------|------------|
| Device marking code                                                                         |                  |                  | MBR3060PT  |
| Repetitive Peak Reverse Voltage                                                             | V <sub>RRM</sub> | V                | 60         |
| Average Rectified Output Current<br>@60Hz sine wave, R-load, T <sub>c</sub> =106°C          | I <sub>O</sub>   | A                | 30         |
| Surge(Non-repetitive)Forward Current<br>@60Hz half sine-wave, 1 cycle, T <sub>a</sub> =25°C | I <sub>FSM</sub> | A                | 250        |
| Current Squared Time @1ms≤t≤8.3ms T <sub>j</sub> =25°C,                                     | I <sup>2</sup> t | A <sup>2</sup> s | 260        |
| Storage Temperature                                                                         | T <sub>stg</sub> | °C               | -55 ~ +150 |
| Junction Temperature                                                                        | T <sub>j</sub>   | °C               | -55 ~ +150 |

### ■Electrical Characteristics

| PARAMETER                                                       | SYMBOL            | UNIT | TEST CONDITIONS                                            | Min | Typ   | Max  |
|-----------------------------------------------------------------|-------------------|------|------------------------------------------------------------|-----|-------|------|
| Peak Forward Voltage                                            | V <sub>FM</sub>   | V    | I <sub>FM</sub> =15.0A<br>T <sub>j</sub> =25°C             | 0.5 | 0.695 | 0.72 |
|                                                                 |                   |      | I <sub>FM</sub> =15.0A<br>T <sub>j</sub> =125°C            | -   | 0.63  | 0.66 |
| DC reverse current<br>at rated DC blocking voltage per<br>diode | I <sub>RRM1</sub> | mA   | V <sub>RM</sub> =V <sub>RRM</sub><br>T <sub>j</sub> =25°C  | -   | -     | 0.2  |
|                                                                 | I <sub>RRM2</sub> |      | V <sub>RM</sub> =V <sub>RRM</sub><br>T <sub>j</sub> =125°C | -   | -     | 50   |
| Junction capacitance                                            | C <sub>j</sub>    | pF   | 1MHz and<br>Applied Reverse<br>Voltage of 4.0<br>V.D.C     | 200 | 530   | 750  |

Note1:Pulse test:300uS pulse width,1% duty cycle

Note2:Pulse test:pulse width 40mS

# MBR3060PT

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

| PARAMETER          |                              | SYMBOL           | UNIT | MBR3060PT |
|--------------------|------------------------------|------------------|------|-----------|
| Thermal Resistance | Between junction and ambient | R <sub>θJA</sub> | °C/W | 50.0      |
|                    | Between junction and case    | R <sub>θJC</sub> | °C/W | 1.0       |

## ■ Characteristics (Typical)

FIG1: I<sub>o</sub> -T<sub>c</sub> Curve

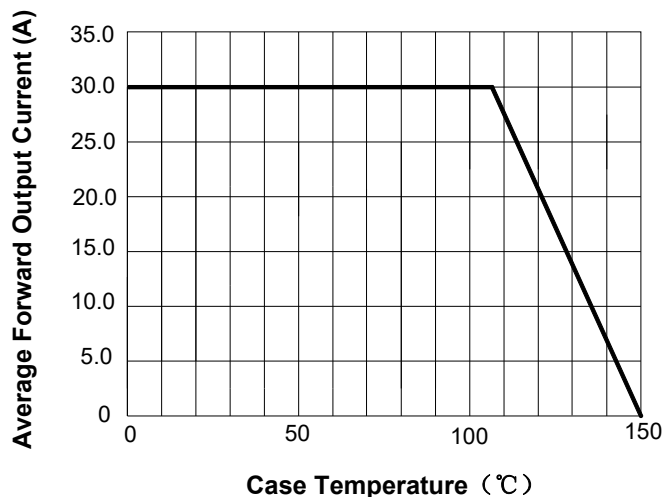


FIG2: Surge Forward Current Capability

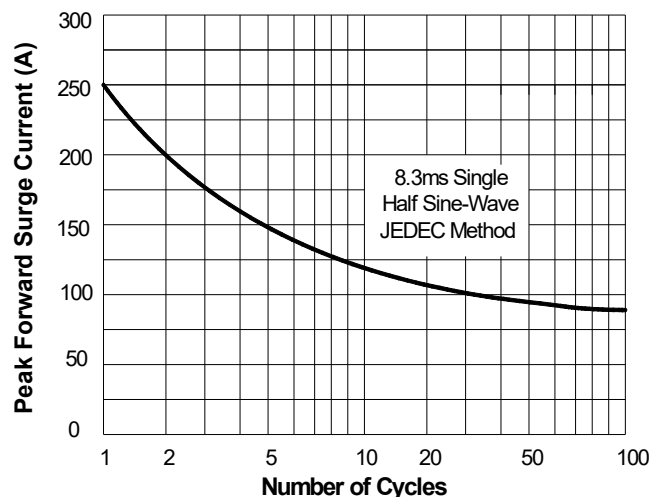


FIG3: Forward Voltage

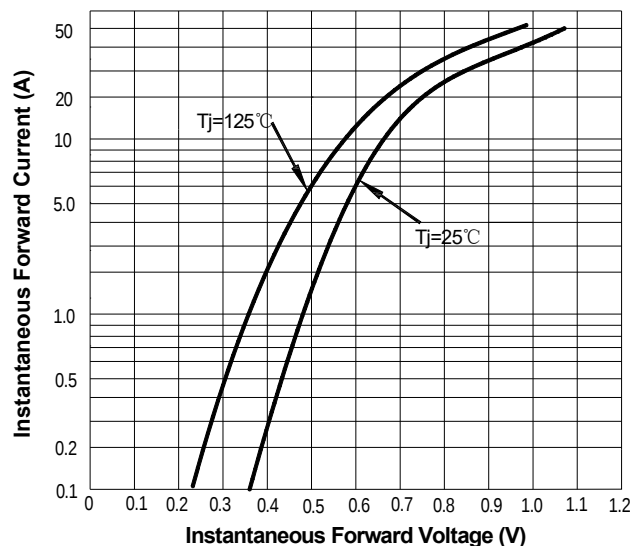
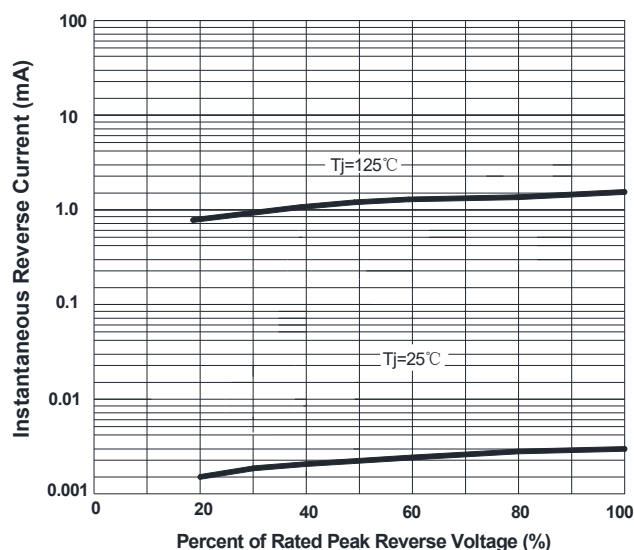
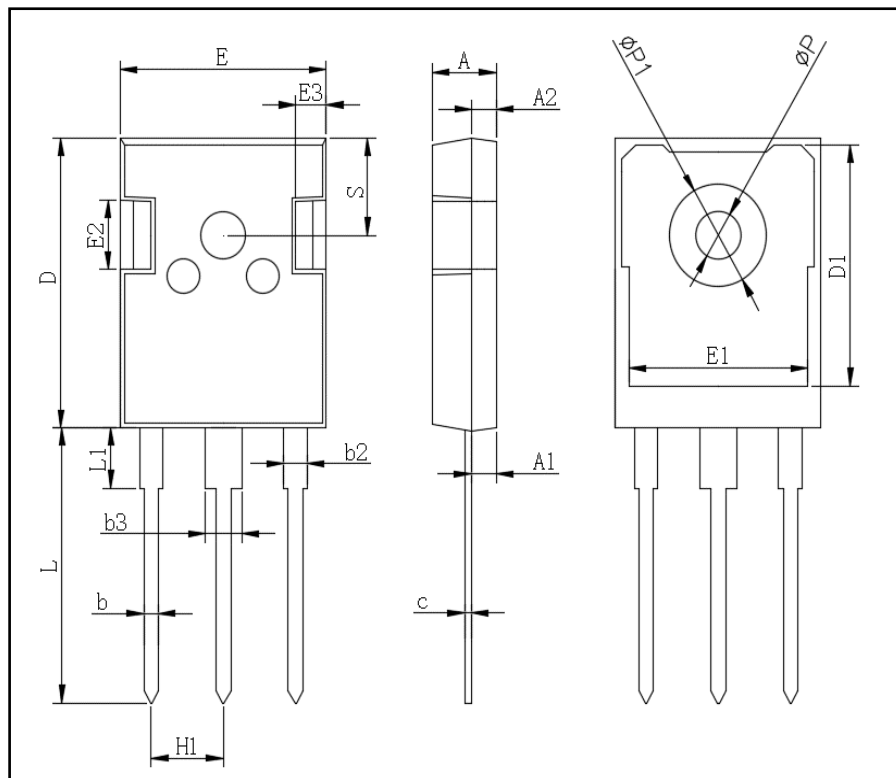


FIG4: Instantaneous Reverse Characteristics



■ Outline Dimensions



| TO-247AB  |         |       |
|-----------|---------|-------|
| Dim       | Min     | Max   |
| A         | 4.80    | 5.20  |
| A1        | 2.21    | 2.61  |
| A2        | 1.85    | 2.15  |
| b         | 1.0     | 1.4   |
| b2        | 1.91    | 2.21  |
| C         | 0.5     | 0.7   |
| D         | 20.70   | 21.30 |
| D1        | 16.25   | 16.85 |
| E         | 15.50   | 16.10 |
| E1        | 13.0    | 13.6  |
| E2        | 4.80    | 5.20  |
| E3        | 2.30    | 2.70  |
| L         | 19.62   | 20.22 |
| L1        | -       | 4.30  |
| $\phi P$  | 3.40    | 3.80  |
| $\phi P1$ | -       | 7.30  |
| S         | 6.15TYP |       |
| H1        | 5.44TYP |       |
| b3        | 2.80    | 3.20  |

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