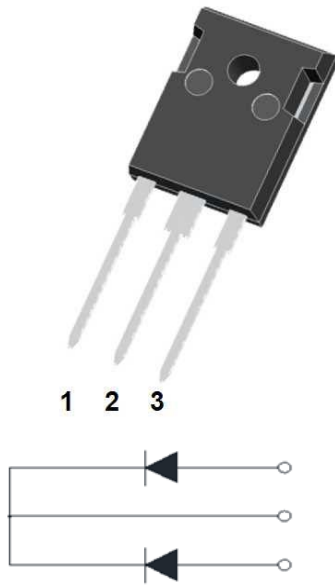


Schottky Diodes



Features

- High frequency operation
- Low forward voltage drop
- 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, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** As marked

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

| PARAMETER | SYMBOL | UNIT | MBR30200PT |
|---|------------------|------------------|------------|
| Device marking code | | | MBR30200PT |
| Repetitive Peak Reverse Voltage | V _{RRM} | V | 200 |
| Average Rectified Output Current @60Hz sine wave, R-load, T _c =148°C | I _o | A | 30 |
| Surge(Non-repetitive)Forward Current @60Hz half sine-wave, 1 cycle, T _a =25°C | I _{FSM} | A | 250 |
| Current Squared Time @1ms≤t≤8.3ms T _j =25°C | I ² t | A ² s | 260 |
| Storage Temperature | T _{stg} | °C | -55 ~ +175 |
| Junction Temperature | T _j | °C | -55 ~ +175 |

■Electrical Characteristics

| PARAMETER | SYMBOL | UNIT | TEST CONDITIONS | Min | Typ | Max |
|---|-------------------|------|--|-----|-------|------|
| Peak Forward Voltage | V _{FM} | V | I _{FM} =15.0A T _j =25°C | 0.5 | 0.83 | 0.9 |
| | | | I _{FM} =15.0A T _j =125°C | - | 0.745 | 0.82 |
| DC reverse current at rated DC blocking voltage per diode | I _{RRM1} | mA | V _{RM} =V _{RRM} T _j =25°C | - | - | 0.1 |
| | I _{RRM2} | | V _{RM} =V _{RRM} T _j =125°C | - | - | 20 |
| Junction capacitance | C _j | pF | 1MHz Applied Voltage and Reverse of 4.0 V.D.C | 150 | 240 | 500 |



MBR30200PT

■ Thermal Characteristics (T_a=25°C Unless otherwise specified)

| PARAMETER | | SYMBOL | UNIT | MBR30200PT |
|--------------------|------------------------------|-------------------|------|------------|
| Thermal Resistance | Between junction and ambient | R _{θJ-A} | °C/W | 50.0 |
| | Between junction and case | R _{θJ-C} | °C/W | 1.0 |

■ Characteristics (Typical)

FIG1: I_o -T_c Curve

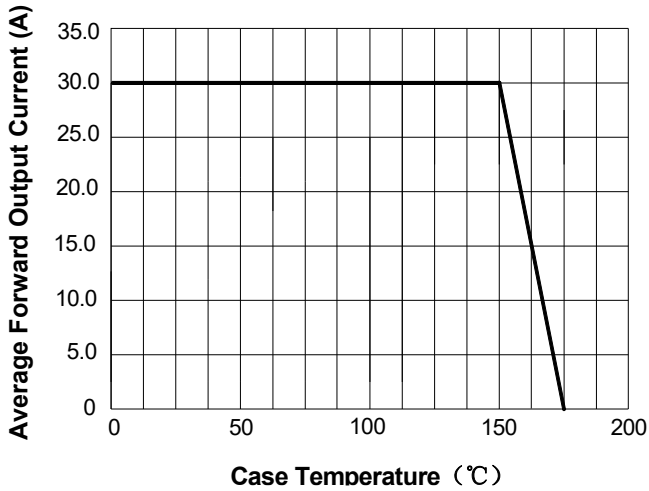


FIG2: Surge Forward Current Capability

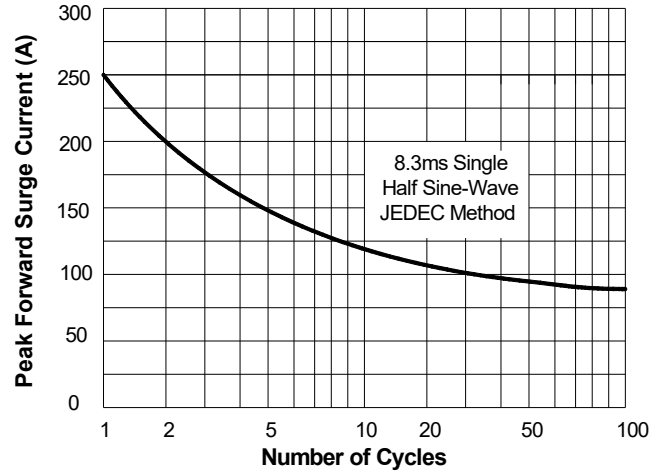


FIG3: Forward Voltage

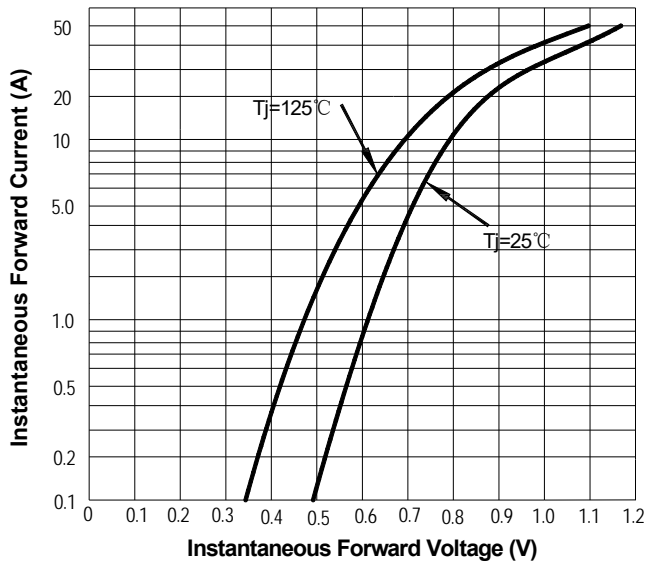
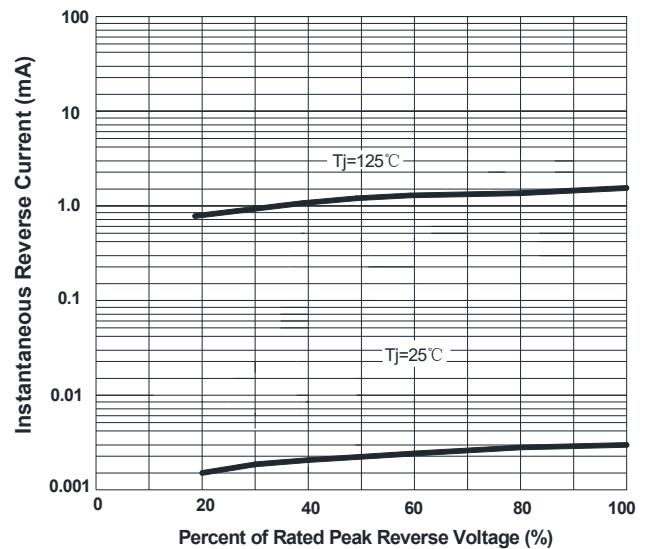


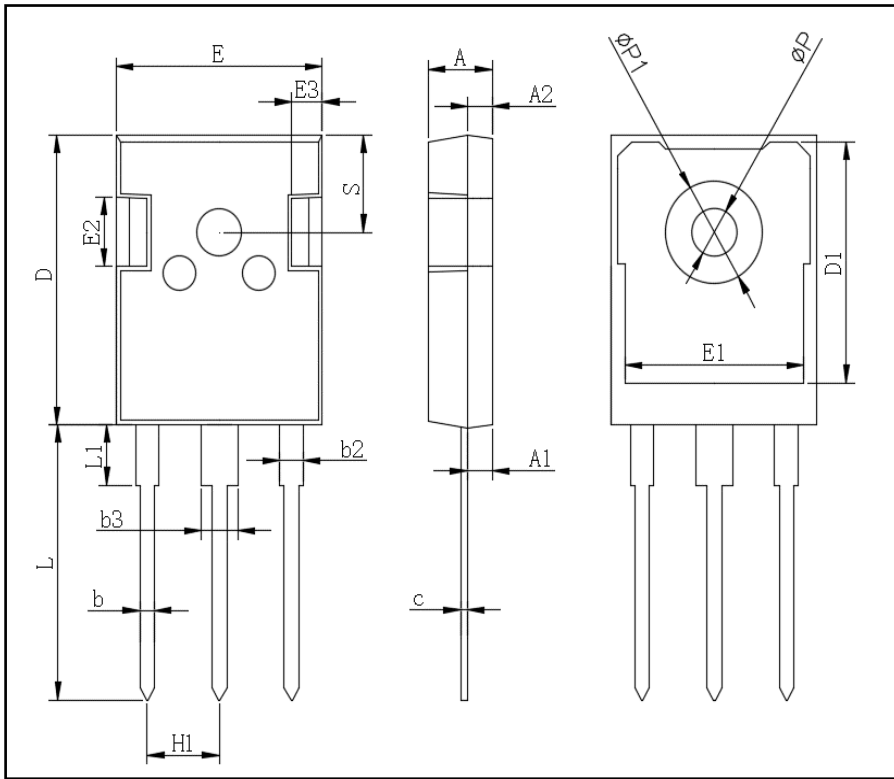
FIG4: Instantaneous Reverse Characteristics





MBR30200PT

■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 |
| ϕP | 3.40 | 3.80 |
| $\phi P1$ | - | 7.30 |
| S | 6.15TYP | |
| H1 | 5.44TYP | |
| b3 | 2.80 | 3.20 |



MBR30200PT

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