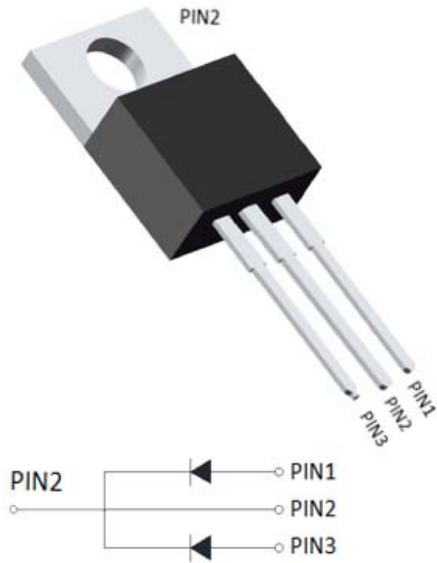


Schottky Diodes



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-220AB
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- **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 | MBRL3045CT |
|--|------------------|------------------|------------|
| Device marking code | | | MBRL3045CT |
| Repetitive Peak Reverse Voltage | VRRM | V | 45 |
| Average Rectified Output Current @60Hz sine wave, R-load, T _a (FIG 1) | 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, rating of per diode | I ² t | A ² s | 259 |
| Storage Temperature | T _{stg} | °C | -55 ~ +150 |
| Junction Temperature | T _j | °C | -55 ~ +150 |

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

| PARAMETER | SYMBOL | UNIT | TEST CONDITIONS | MBRL3045CT |
|---|-------------------|------|-----------------------------------|------------|
| Maximum instantaneous forward voltage drop per diode | V _{FM} | V | I _{FM} =15.0A | 0.55 |
| Maximum DC reverse current at rated DC blocking voltage per diode | I _{RRM1} | mA | VRM=VRRM T _a =25°C | 0.2 |
| | I _{RRM2} | | VRM=VRRM T _a =100°C | 50 |

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

| PARAMETER | SYMBOL | UNIT | MBRL3045CT |
|---|-------------------|------|------------|
| Thermal Resistance Between junction and case | R _{θJ-C} | °C/W | 2.0 |



MBRL3045CT

Ordering Information (Example)

| PREFERED P/N | UNIT WEIGHT(g) | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|--------------|-----------------|----------------------|-------------------------|----------------------------|---------------|
| MBRL3045CT | Approximate 1.9 | 50 | 1000 | 5000 | Tube |

Characteristics (Typical)

FIG1: I_o - T_c Curve

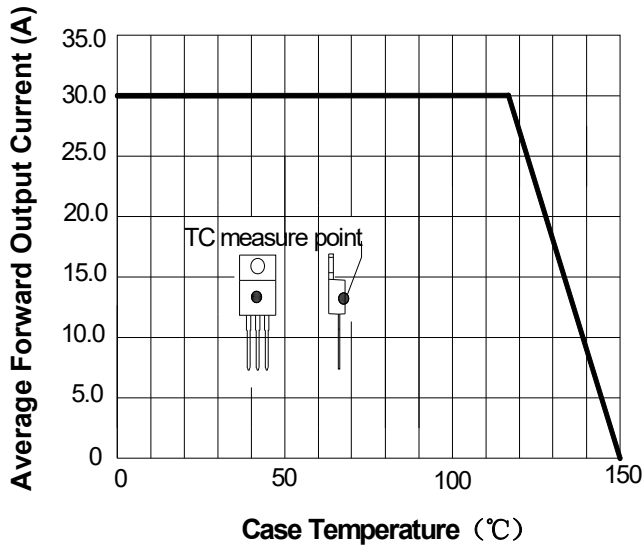


FIG2: Surge Forward Current Capability

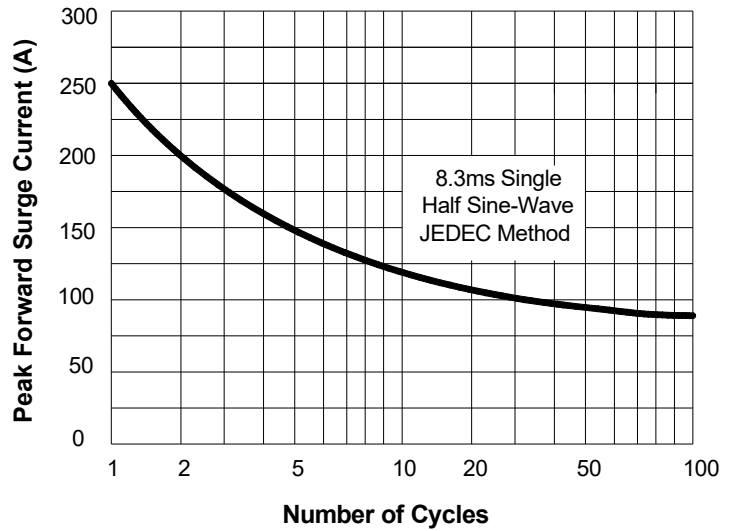


FIG3: Forward Voltage

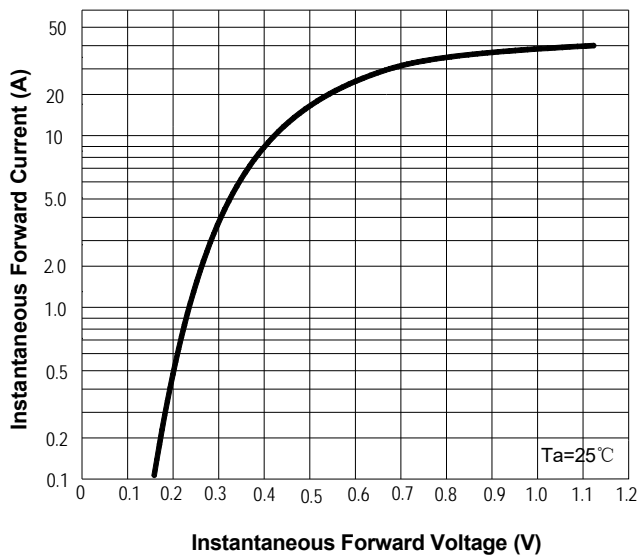
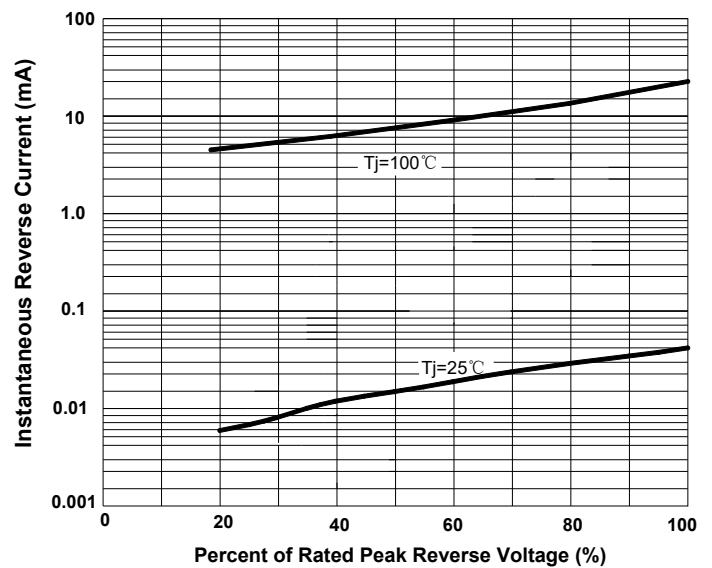


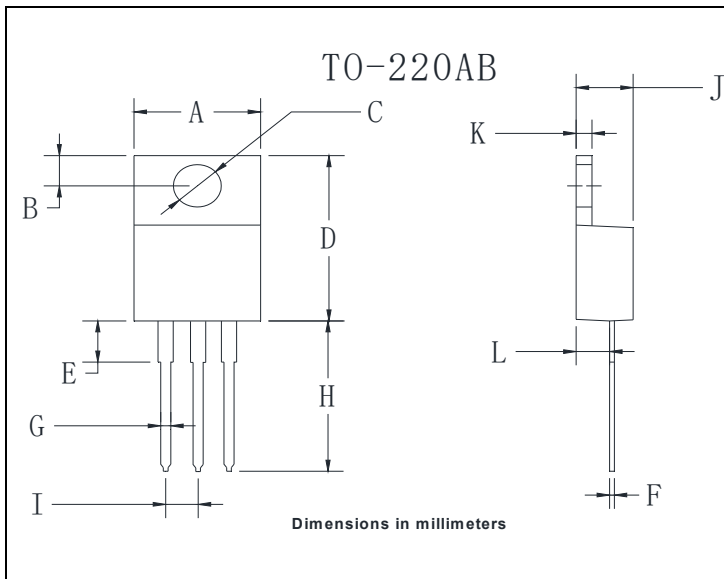
FIG4: Typical Reverse Characteristics





MBRL3045CT

■Outline Dimensions



| TO-220AB | | |
|----------|-------|-------|
| Dim | Min | Max |
| A | 9.5 | 10.9 |
| B | 2.22 | 3.27 |
| C | 3.34 | 4.31 |
| D | 14.5 | 15.5 |
| E | 3.16 | 4.46 |
| F | 0.28 | 0.64 |
| G | 0.68 | 0.94 |
| H | 13.06 | 14.62 |
| I | 2.01 | 3.07 |
| J | 4.04 | 5.1 |
| K | 1.14 | 1.4 |
| L | 2.14 | 3.19 |



MBRL3045CT

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