

■ **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<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER   | SYMBOL           | UNIT             | MBRL10100CT |
|---|------------------|------------------|-------------|
| Device marking code   |                  |                  | MBRL10100CT |
| Repetitive Peak Reverse Voltage   | VRRM             | V                | 100         |
| Average Rectified Output Current<br>@60Hz sine wave, R-load, T <sub>a</sub> =25°C           | I <sub>O</sub>   | A                | 10          |
| Surge(Non-repetitive)Forward Current<br>@60Hz half sine-wave, 1 cycle, T <sub>a</sub> =25°C | I <sub>FSM</sub> | A                | 100         |
| Current Squared Time<br>@1ms≤t≤8.3ms T <sub>j</sub> =25°C                                   | I <sup>2</sup> t | A <sup>2</sup> s | 41          |
| Storage Temperature   | T <sub>stg</sub> | °C               | -55 ~ +150  |
| Junction Temperature  | T <sub>j</sub>   | °C               | -55 ~ +150  |

■ **ELECTRICAL CHARACTERISTICS** (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER   | SYMBOL            | UNIT | TEST CONDITIONS  | MBRL10100CT |
|---|-------------------|------|--|-------------|
| Maximum instantaneous forward voltage drop per diode              | V <sub>FM</sub>   | V    | I <sub>FM</sub> =5.0A                                      | 0.72        |
| Maximum DC reverse current at rated DC blocking voltage per diode | I <sub>RRM1</sub> | mA   | V <sub>RM</sub> =V <sub>RRM</sub><br>T <sub>a</sub> =25°C  | 0.1         |
|   | I <sub>RRM2</sub> |      | V <sub>RM</sub> =V <sub>RRM</sub><br>T <sub>a</sub> =100°C | 20          |

■ **THERMAL CHARACTERISTICS** (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER                                       | SYMBOL            | UNIT | MBRL10100CT |
|---|-------------------|------|-------------|
| Thermal Resistance<br>Between junction and case | R <sub>θJ-C</sub> | °C/W | 2.0         |

■ **PACKAGING INFORMATION**

| PREFERRED P/N | UNIT WEIGHT(g)  | MINIIMUM PACKAGE (pcs) | INNER BOX QUANTITY (pcs) | OUTER CARTON QUANTITY (pcs) | DELIVERY MODE |
|---------------|-----------------|------------------------|--------------------------|-----------------------------|---------------|
| MBRL10100CT   | Approximate 1.9 | 50                     | 1000                     | 5000                        | Tube          |

■ **CHARACTERISTICS (TYPICAL)**

FIG1:Io -Tc Curve

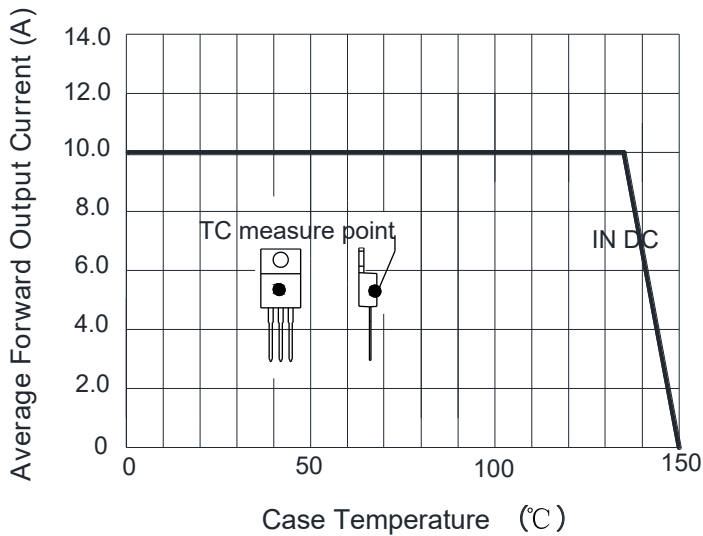


FIG2:Surge Forward Current Capability

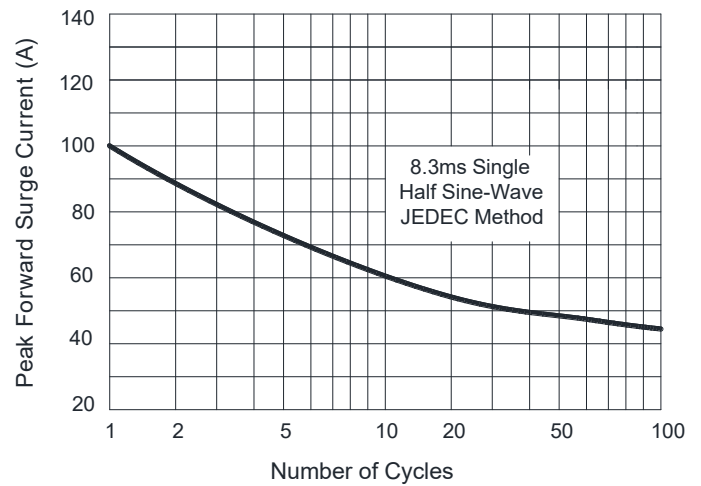


FIG3: Forward Voltage

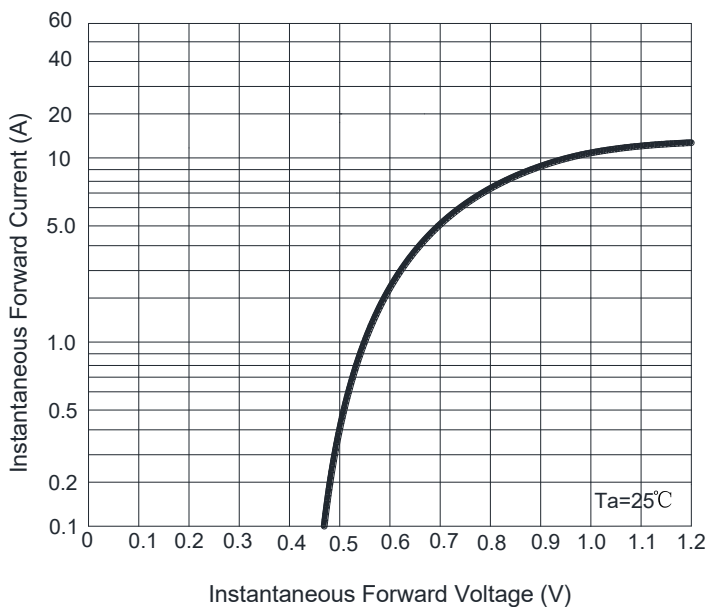
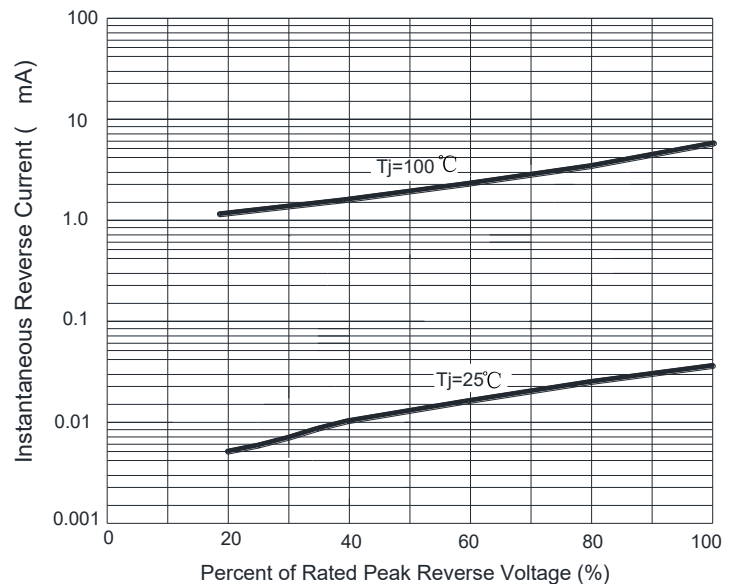
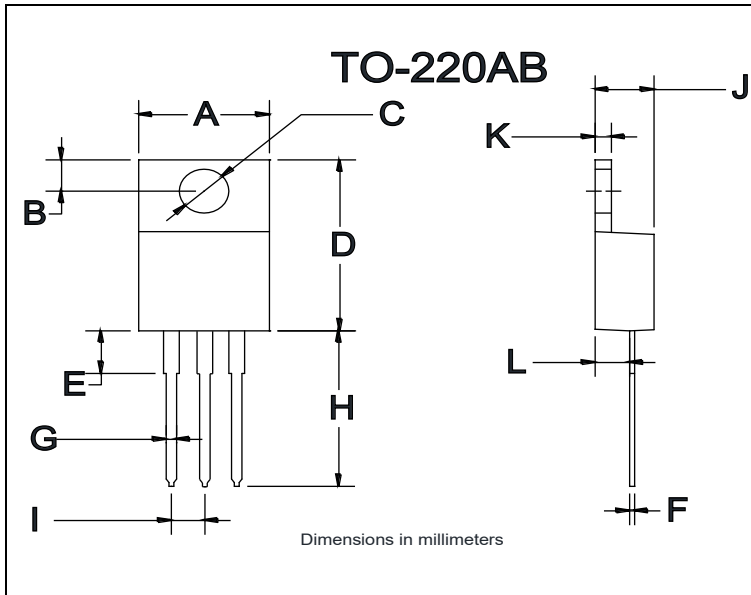


FIG4: Typical Reverse Characteristics



■ **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  |