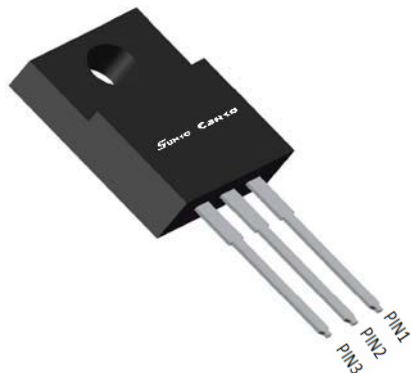


## Schottky Diodes



### 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:** ITO-220AB  
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             | MBRL2045FCT |
|---------------------------------------------------------------------------------------------|------------------|------------------|-------------|
| Device marking code                                                                         |                  |                  | MBRL2045FCT |
| Repetitive Peak Reverse Voltage                                                             | V <sub>RRM</sub> | V                | 45          |
| Average Rectified Output Current<br>@60Hz sine wave, R-load, T <sub>a</sub> (FIG 1)         | I <sub>O</sub>   | A                | 20          |
| Surge(Non-repetitive)Forward Current<br>@60Hz half sine-wave, 1 cycle, T <sub>a</sub> =25°C | I <sub>FSM</sub> | A                | 180         |
| Current Squared Time<br>@1ms≤t≤8.3ms T <sub>j</sub> =25°C, rating of per diode              | I <sup>2</sup> t | A <sup>2</sup> s | 134         |
| 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                                            | MBRL2045FCT |
|-------------------------------------------------------------------|-------------------|------|------------------------------------------------------------|-------------|
| Maximum instantaneous forward voltage drop per diode              | V <sub>FM</sub>   | V    | I <sub>FM</sub> =10.0A                                     | 0.55        |
| 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  | 0.2         |
|                                                                   | I <sub>RRM2</sub> |      | V <sub>RM</sub> =V <sub>RRM</sub><br>T <sub>a</sub> =100°C | 50          |

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

| PARAMETER          |                           | SYMBOL            | UNIT | MBRL2045FCT |
|--------------------|---------------------------|-------------------|------|-------------|
| Thermal Resistance | Between junction and case | R <sub>θJ-C</sub> | °C/W | 4.0         |

## ■Ordering Information (Example)

| PREFERED P/N | UNIT WEIGHT(g)  | MINIIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|--------------|-----------------|-----------------------|-------------------------|----------------------------|---------------|
| MBRL2045FCT  | Approximate 1.6 | 50                    | 1000                    | 5000                       | Tube          |

## ■Characteristics (Typical)

FIG1:Io -Tc Curve

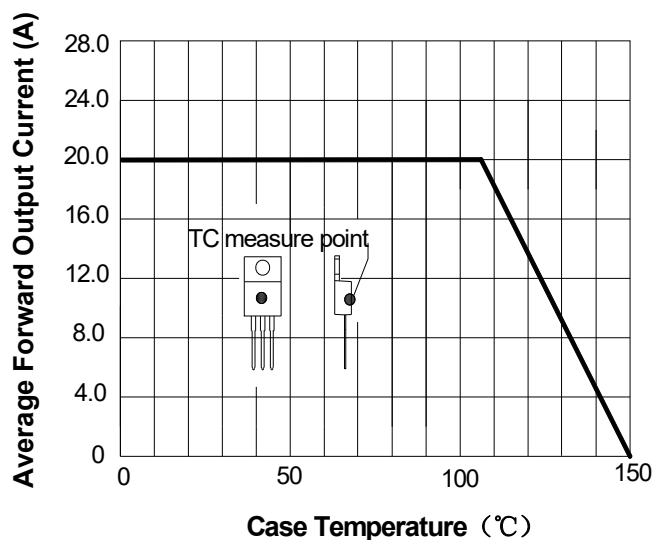


FIG2:Surge Forward Current Capability

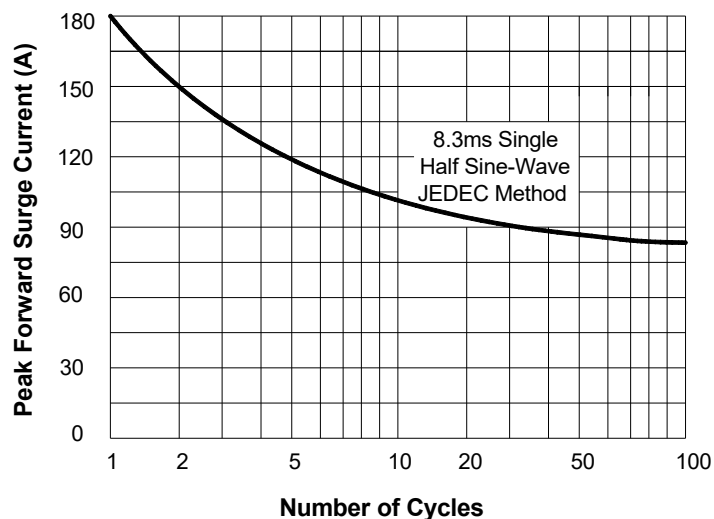


FIG3: Forward Voltage

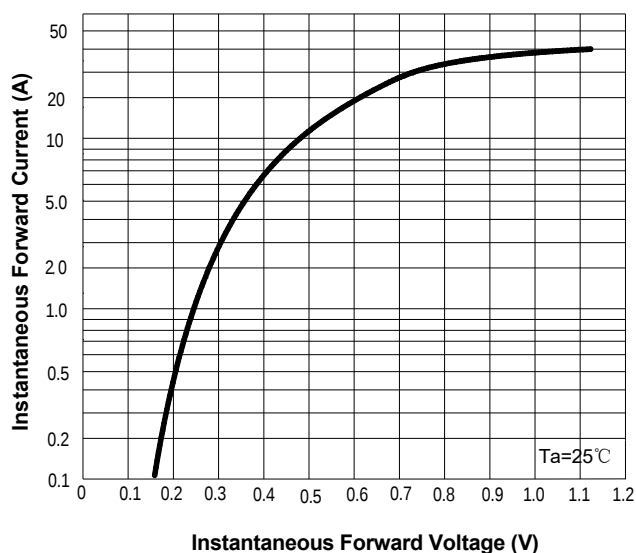
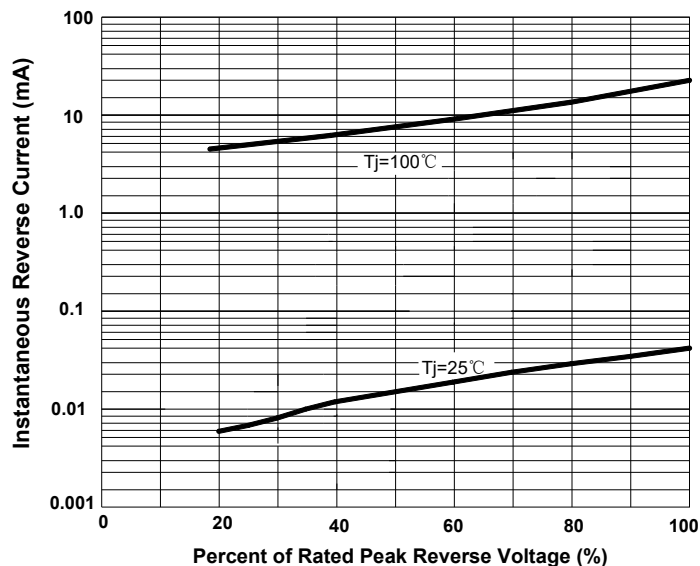
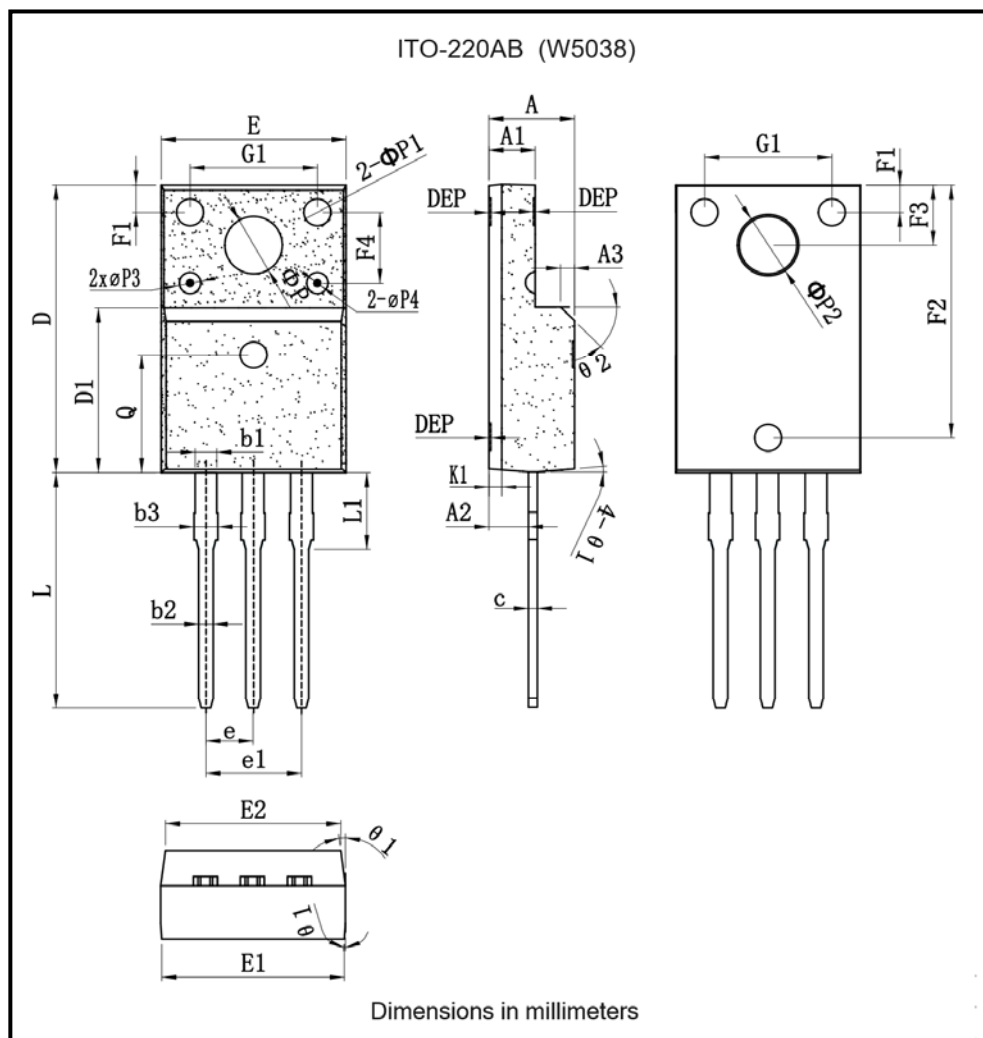


FIG.4: Typical Reverse Characteristics



## ■Outline Dimensions



| ITO-220AB (W5038) |          |       |
|-------------------|----------|-------|
| Dim               | Min      | Max   |
| A                 | 4.50     | 4.90  |
| A1                | 2.34     | 2.74  |
| A2                | 2.66     | 2.86  |
| A3                | 1.0 REF  |       |
| b1                | 1.18     | 1.24  |
| b2                | 0.75     | 0.85  |
| b3                | 1.22     | 1.38  |
| C                 | 0.45     | 0.55  |
| D                 | 15.67    | 16.07 |
| D1                | 9.04     | 9.20  |
| e                 | 2.50     | 2.58  |
| e1                | 5.08 REF |       |
| E                 | 10.00    | 10.30 |
| E1                | 9.94     | 10.20 |
| E2                | 9.40     | 9.60  |
| F1                | 1.40     | 1.60  |
| F2                | 13.80    | 14.00 |
| F3                | 3.20     | 3.40  |
| F4                | 3.70     | 4.10  |
| G1                | 6.90     | 7.10  |
| K1                | 0.65     | 0.75  |
| L                 | 12.78    | 13.18 |
| L1                | 3.40     | 3.60  |
| Q                 | 6.50 REF |       |
| ΦP                | 3.08     | 3.28  |
| ΦP1               | 1.45     | 1.65  |
| ΦP2               | 3.30     | 3.50  |
| ΦP3               | 0.95     | 1.35  |
| ΦP4               | 0.25     | 0.35  |
| θ1                | 3°       | 7°    |
| θ2                | 42°      | 48°   |
| DEP               | 0.05     | 0.15  |

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