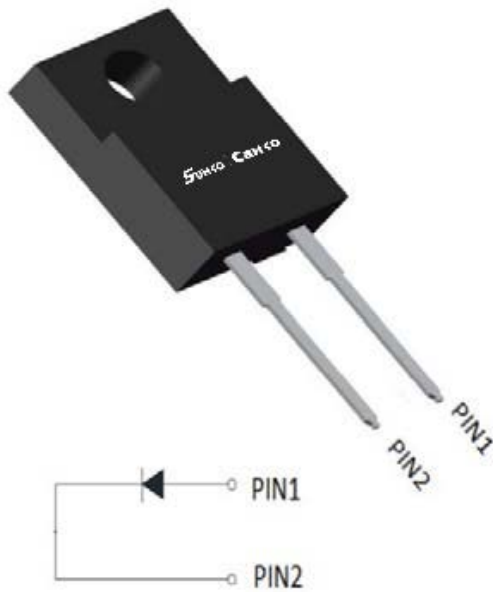


## Schottky Diodes



### 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-220AC  
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 (Ta=25°C Unless otherwise specified )

| PARAMETER                                                                      | SYMBOL    | UNIT             | MBR1080F   | MBR10100F | MBR10120F | MBR10150F | MBR10200F |
|--------------------------------------------------------------------------------|-----------|------------------|------------|-----------|-----------|-----------|-----------|
| Device marking code                                                            |           |                  | MBR1080F   | MBR10100F | MBR10120F | MBR10150F | MBR10200F |
| Repetitive Peak Reverse Voltage                                                | $V_{RRM}$ | V                | 80         | 100       | 120       | 150       | 200       |
| Average Rectified Output Current<br>@60Hz sine wave, R-load, Ta=25°C           | $I_O$     | A                | 10         |           |           |           |           |
| Surge(Non-repetitive)Forward Current<br>@60Hz half sine-wave, 1 cycle, Ta=25°C | $I_{FSM}$ | A                | 150        |           |           |           |           |
| Current Squared Time<br>@1ms≤t≤8.3ms Tj=25°C ,                                 | $I^2t$    | A <sup>2</sup> s | 94         |           |           |           |           |
| Storage Temperature                                                            | $T_{stg}$ | °C               | -55 ~ +150 |           |           |           |           |
| Junction Temperature                                                           | $T_j$     | °C               | -55 ~ +150 |           |           |           |           |

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

| PARAMETER                                                         | SYMBOL            | UNIT | TEST CONDITIONS                               | MBR1080F | MBR10100F | MBR10120F | MBR10150F | MBR10200F |
|-------------------------------------------------------------------|-------------------|------|-----------------------------------------------|----------|-----------|-----------|-----------|-----------|
| Maximum instantaneous forward voltage drop per diode              | V <sub>FM</sub>   | V    | I <sub>FM</sub> =10.0A                        | 0.85     |           | 0.9       |           | 0.95      |
| 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>Ta=25°C  | 0.1      |           |           |           |           |
|                                                                   | I <sub>RRM2</sub> |      | V <sub>RM</sub> =V <sub>RRM</sub><br>Ta=100°C | 20       |           |           |           |           |

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

Note2:Pulse test:pulse width 40mS

# MBR1080F THRU MBR10200F

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

| PARAMETER          |                           | SYMBOL            | UNIT | MBR1080F | MBR10100F | MBR10120F | MBR10150F | MBR10200F |
|--------------------|---------------------------|-------------------|------|----------|-----------|-----------|-----------|-----------|
| Thermal Resistance | Between junction and case | R <sub>θJ-C</sub> | °C/W | 4.0      |           |           |           |           |

## ■ Ordering Information (Example)

| PREFERRED P/N           | UNIT WEIGHT(g)  | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|-------------------------|-----------------|----------------------|-------------------------|----------------------------|---------------|
| MBR1080F THRU MBR10200F | Approximate 1.5 | 50                   | 1000                    | 5000                       | Tube          |

## ■ Characteristics (Typical)

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

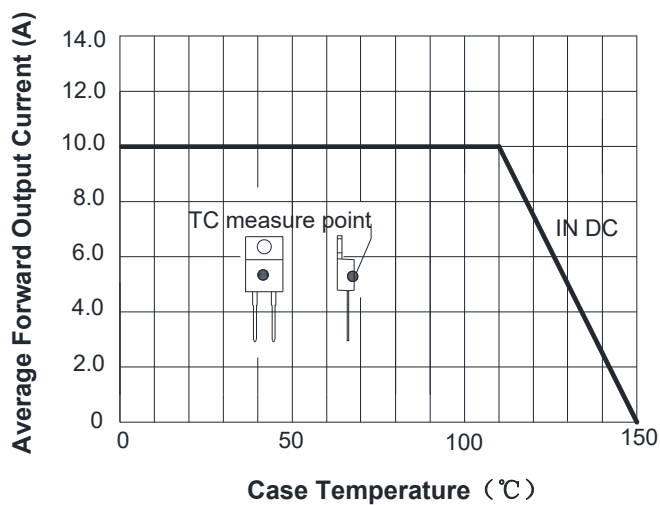


FIG2: Surge Forward Current Capability

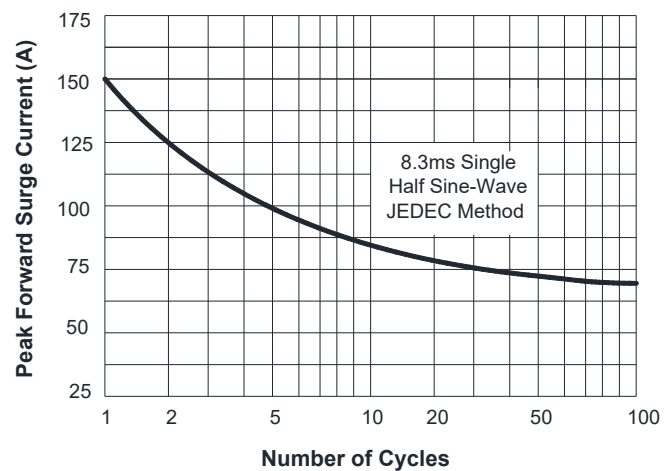


FIG3: Forward Voltage

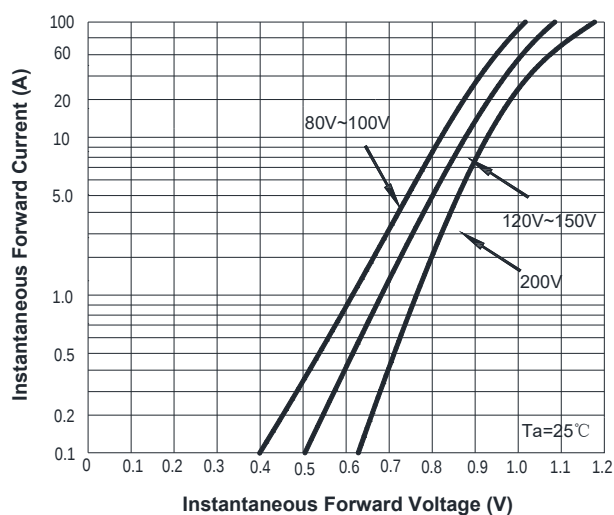
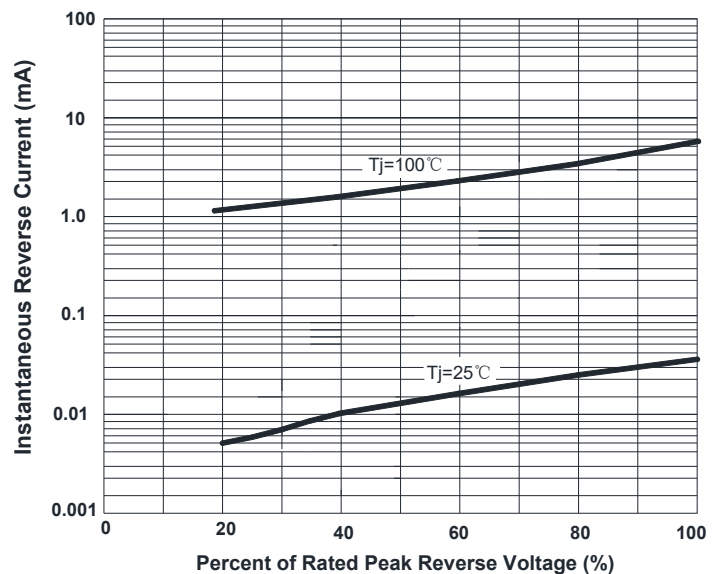
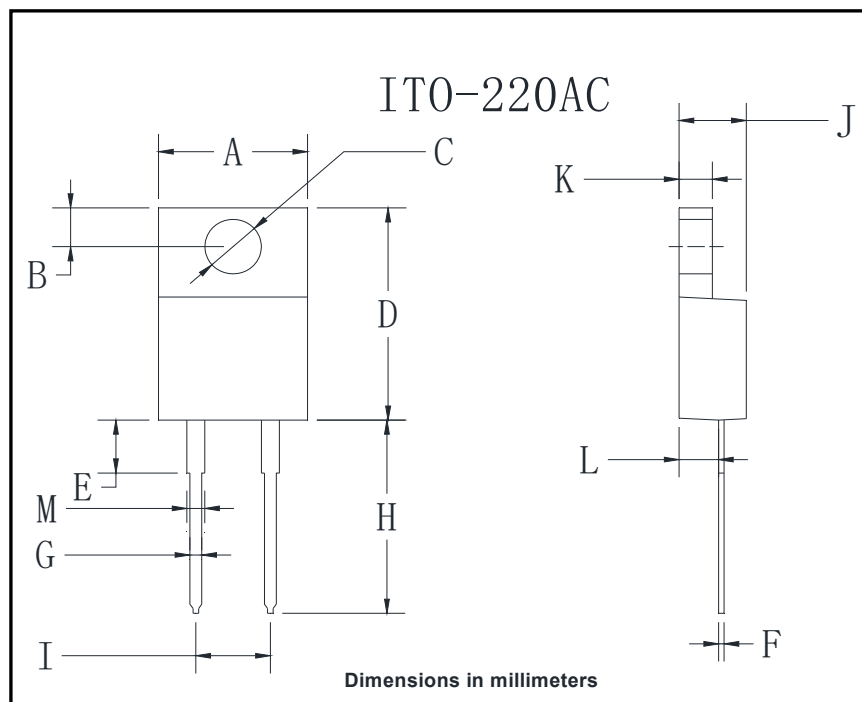


FIG4: Typical Reverse Characteristics



■ Outline Dimensions



| ITO-220AC |       |       |
|-----------|-------|-------|
| Dim       | Min   | Max   |
| A         | 9.8   | 10.2  |
| B         | 2.25  | 2.75  |
| C         | 2.95  | 3.45  |
| D         | 14.75 | 15.25 |
| E         | 3.5   | 4.1   |
| F         | 0.45  | 0.75  |
| G         | 0.45  | 0.75  |
| H         | 13.35 | 14.15 |
| I         | 4.97  | 5.23  |
| J         | 4.3   | 4.8   |
| K         | 2.5   | 2.74  |
| L         | 2.58  | 2.82  |
| M         | 1.03  | 1.43  |

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