

**MBR1020CT/FCT THRU MBR10200CT/FCT**

**SCHOTTKY RECTIFIERS**



|                |              |                |           |                |
|----------------|--------------|----------------|-----------|----------------|
| <b>VOLTAGE</b> | 20~200 Volts | <b>CURRENT</b> | 10 Ampers | <b>Marking</b> |
|----------------|--------------|----------------|-----------|----------------|

**FEATURES**

- Power pack
- Metal silicon junction ,majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss ,high efficiency
- High current capability ,low forward voltage drop
- High forward surge capability
- High frequency operation
- Solder bath temperature 275°C maximum, 10s, per JESD22-B106 (for TO-220ABand ITO-220AB package)
- Component in accordance to RoHS 2011/65/EU

**MECHANICAL DATA**

- Case: JEDEC TO-220-3L、TO-220F
- Molding compound meets UL94V-0 flammability rating
- Terminals: Lead solderable per J-STD-002 and JESD22-B102
- Polarity: As marked
- Mounting Torque: 10 in-lbs maximum

**TYPICAL APPLICATIONS**

- For use in low voltage ,high frequency inverters ,DC/DC converters,free wheeling ,and polarity protection applications

| TO-220-3L<br>MBR10XXXCT                             | TO-220F<br>MBR10XXXFCT                 |
|---|--|
|   |  |
| <p>Pin1 </p> <p>Pin2 </p> <p>Pin3 </p> <p>CASE </p> | <p>Pin1 </p> <p>Pin2 </p> <p>Pin3 </p> |

**Maximum Ratings and Electrical Characteristics**(Ratings at 25°C ambient temperature unless otherwise specified )

| Parameter  | Symbol           | MBR 1020    | MBR 1030   | MBR 1040   | MBR 1045   | MBR 1050   | MBR 1060   | MBR 1080   | MBR 10100  | MBR 10150  | MBR 10200  | Unit |
|--|------------------|-------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------|
|  |                  | CT/<br>FCT  | CT/<br>FCT | CT/<br>FCT | CT/<br>FCT | CT/<br>FCT | CT/<br>FCT | CT/<br>FCT | CT/<br>FCT | CT/<br>FCT | CT/<br>FCT |      |
| Maximum repetitive peak reverse voltage  | V <sub>RRM</sub> | 20          | 30         | 40         | 45         | 50         | 60         | 80         | 100        | 150        | 200        | V    |
| Maximum RMS voltage  | V <sub>RMS</sub> | 14          | 21         | 28         | 32         | 35         | 42         | 56         | 70         | 105        | 140        | V    |
| Maximum DC blocking voltage  | V <sub>DC</sub>  | 20          | 30         | 40         | 45         | 50         | 60         | 80         | 100        | 150        | 200        | V    |
| Maximum average forward rectified current(see fig.1)   | Per leg          | 5           |            |            |            |            |            |            |            |            |            | A    |
|  | Total device     | 10          |            |            |            |            |            |            |            |            |            |      |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL) | I <sub>FSM</sub> | 150         |            |            |            |            |            |            |            |            |            | A    |
| Maximum instantaneous forward voltage at 5.0 A per leg   | V <sub>F</sub>   | 0.7         |            |            | 0.75       |            | 0.8        |            | 0.9        |            |            | V    |
| Maximum instantaneous reversecurrent at rated DC blocking voltage(Note 1)                                    | I <sub>RRM</sub> | 0.05        |            |            |            |            |            |            |            |            |            | uA   |
|  |                  | 20          |            |            |            |            |            |            |            |            |            |      |
| Operating junction and Storage temperature range   | T <sub>J</sub>   | -65 to +150 |            |            |            |            |            |            |            |            |            | °C   |
| Storage temperature range  | T <sub>STG</sub> | -65 to +150 |            |            |            |            |            |            |            |            |            |      |

**Thermal Characteristics** (Ratings at 25°C ambient temperature unless otherwise specified )

| Parameter                          | Symbol           | TO-220-3L | TO-220F | Unit |
|------------------------------------|------------------|-----------|---------|------|
| Typical thermal resistance(Note 2) | R <sub>θJC</sub> | 2.5       | 4.5     | C/W  |

- Note: 1.Pulse test: 300 μs pulse width, 1% duty cycle  
 2.Pulse test: pulse width≤40ms  
 3.Thermal resistance from junction to case

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**RATING AND CHARACTERISTIC CURVES**

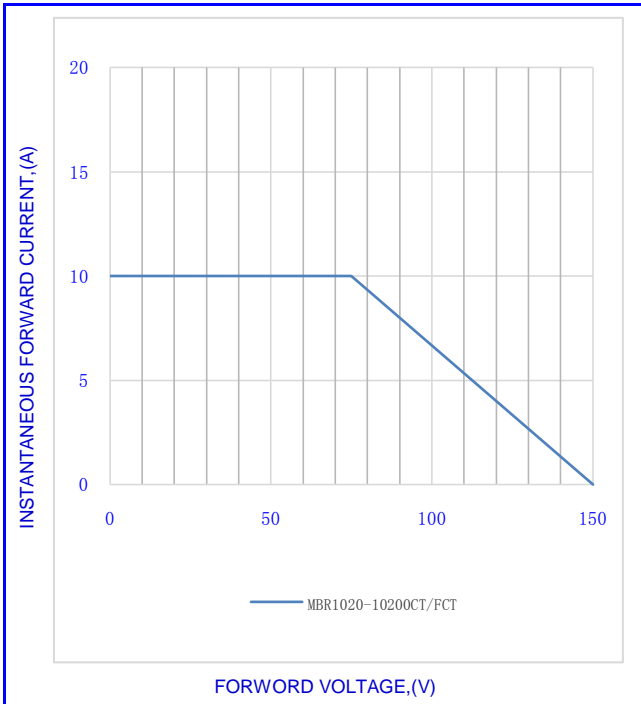


Fig.1-TYPICAL INSTANTANEOUS FORWARD

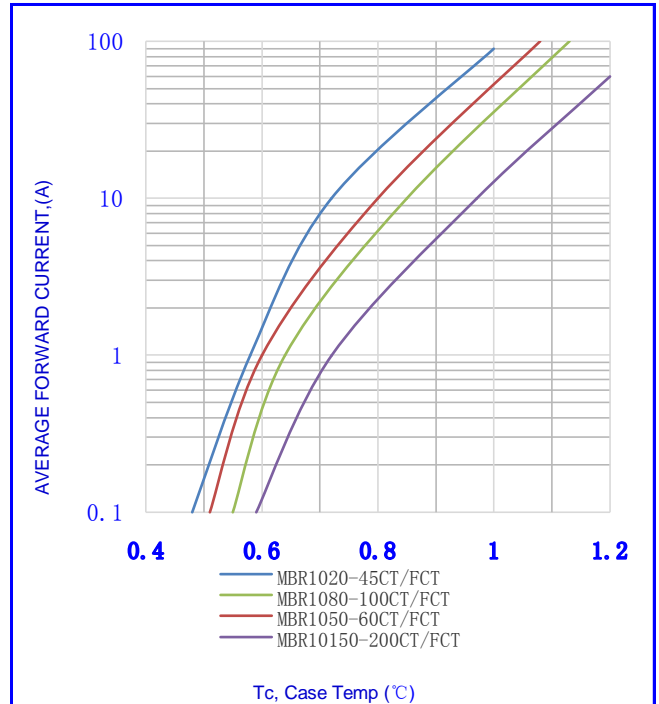


Fig.2- FORWARD CURRENT DERATING CURVE

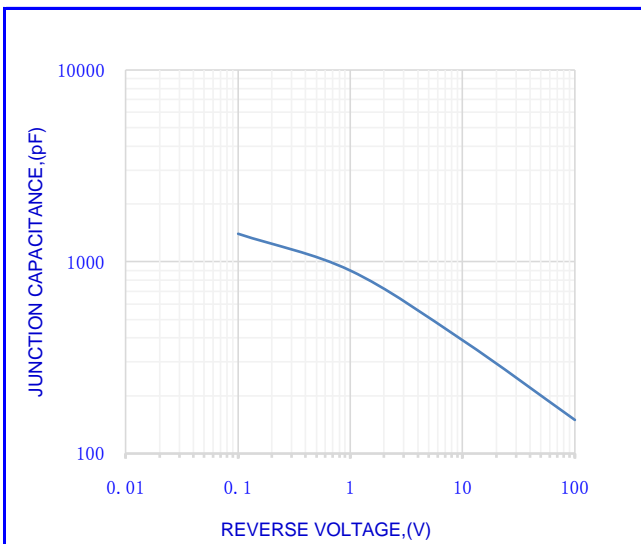


Fig.3- TYPICAL JUNCTION CAPACITANCE

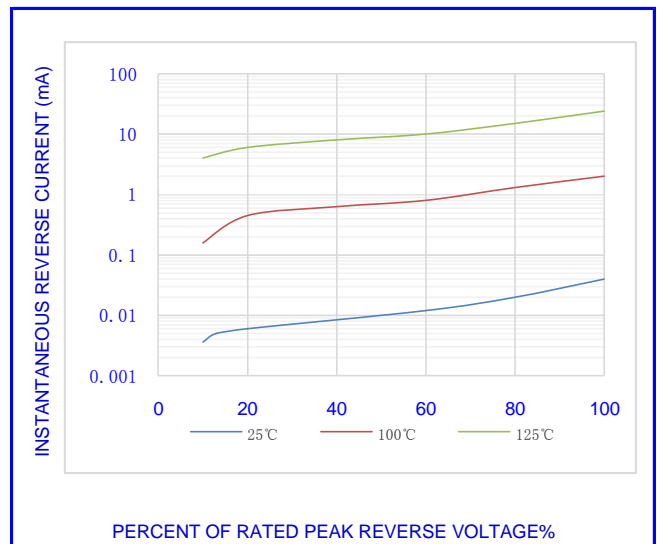


Fig.4- TYPICAL REVERSE CHARACTERISTICS

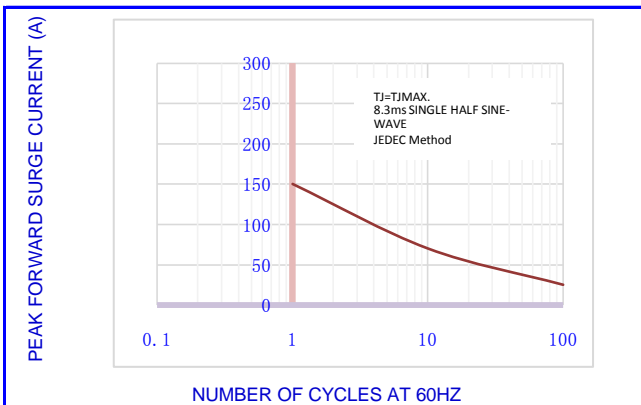


Fig.5-MAX. NON-REPETITIVE SURGE CURRENT

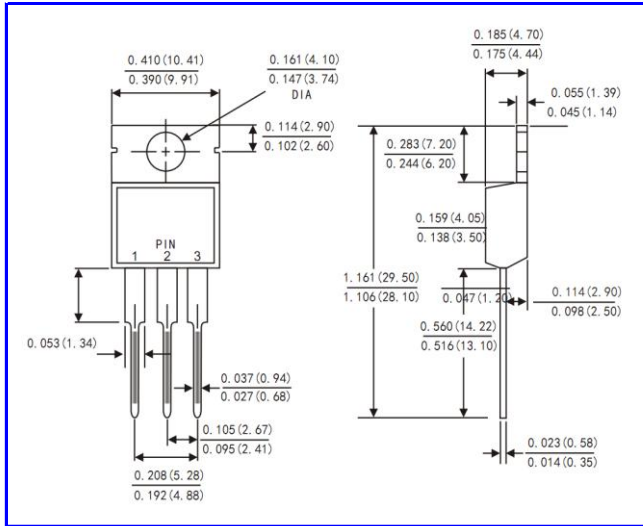


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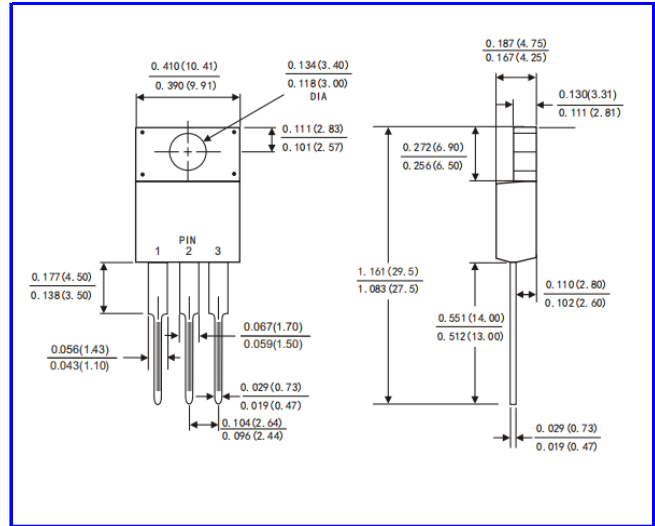


**SCHOTTKY RECTIFIERS**

**OUTLINE DRAWINGS**



TO-220-3L



ITO-220AB

**Packing Information**

| Product code | Pack | Box Size LxWxH(mm) | Quantity(pcs/box) | Carton SizeLxWxH(mm) | Quantity(box/carton) |
|--------------|------|--------------------|-------------------|----------------------|----------------------|
| MBR10150DCT  | P/T  | 550*150*40         | 1000              | 580*230*175          | 5                    |
| MBR10150DFCT | P/T  | 550*150*40         | 1000              | 580*230*175          | 5                    |