



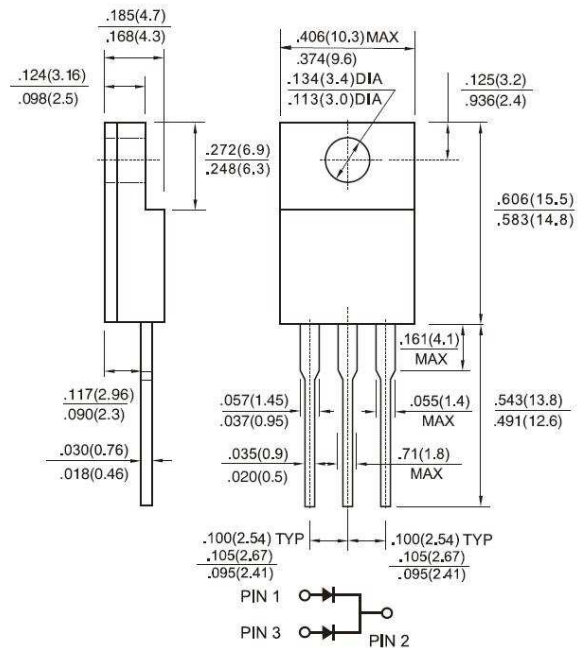
## MBRF10100D - MBRF10200D 10.0AMPS Isolated Schottky Barrier Rectifier ITO-220AB

### Features

- ✧ Plastic material used carries Underwriters Laboratory Classifications 94V-0
- ✧ Metal silicon junction, majority carrier conduction
- ✧ Low power loss, high efficiency
- ✧ High current capability, low forward voltage drop
- ✧ High Surge capability
- ✧ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ✧ Guarding for overvoltage protection
- ✧ High temperature soldering guaranteed: 260°C / 10 seconds, 0.25"(6.35mm) from case
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode

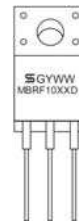
### Mechanical Data

- ✧ Case: ITO-220AB molded plastic body
- ✧ Terminals: Pure tin plated, lead free, solderable per MIL-STD-750, Method 2026
- ✧ Polarity: As marked
- ✧ Mounting position: Any
- ✧ Mounting torque: 5 in-lbs. Max.
- ✧ Weight: 1.74 grams



### Dimensions in inches and (millimeters)

#### Marking Diagram



MBRF10XXD = Specific Device Code  
G = Green compound  
Y = Year  
WW = Work Week

### Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

| Type Number                                                                                                                                                                               | Symbol           | MBRF 10100D                  | MBRF 10150D                  | MBRF 10200D | Unit     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------------------|------------------------------|-------------|----------|
| Maximum Repetitive Peak Reverse Voltage                                                                                                                                                   | $V_{RRM}$        | 100                          | 150                          | 200         | V        |
| Maximum RMS Voltage                                                                                                                                                                       | $V_{RMS}$        | 70                           | 105                          | 140         | V        |
| Maximum DC blocking voltage                                                                                                                                                               | $V_{DC}$         | 100                          | 150                          | 200         | V        |
| Maximum Average Forward Rectified Current<br>@T <sub>c</sub> = 133°C (Total Device)                                                                                                       | $I_{F(AV)}$      | 10                           |                              |             | A        |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave<br>Superimposed on Rated Load (JEDEC method)                                                                                     | $I_{FSM}$        | 120                          |                              |             | A        |
| Peak Repetitive Reverse Surge Current                                                                                                                                                     | $I_{RRM}$        | 0.5                          |                              |             | A        |
| Maximum Instantaneous Forward Voltage at (Note 1)<br>IF = 5A, T <sub>A</sub> =25°C<br>IF = 5A, T <sub>A</sub> =125°C<br>IF = 10A, T <sub>A</sub> =25°C<br>IF = 10A, T <sub>A</sub> =125°C | $V_F$            | 0.85<br>0.75<br>0.95<br>0.85 | 0.88<br>0.78<br>0.98<br>0.88 |             | V        |
| Maximum Reverse Current at Rated DC Blocking Voltage<br>T <sub>A</sub> =25 °C<br>T <sub>A</sub> =125 °C                                                                                   | $I_R$            | 0.1<br>5                     |                              |             | mA<br>mA |
| Voltage rate of change (Rated V <sub>R</sub> )                                                                                                                                            | dV/dt            | 10,000                       |                              |             | V/μS     |
| Maximum Thermal Resistance Per Leg (Note 2)                                                                                                                                               | R <sub>θJC</sub> | 3.5                          |                              |             | °C/W     |
| Operating Temperature Range                                                                                                                                                               | T <sub>J</sub>   | -65 to + 150                 |                              |             | °C       |
| Storage Temperature Range                                                                                                                                                                 | T <sub>STG</sub> | -65 to + 150                 |                              |             | °C       |

Note1: Pulse Test : 300us Pulse Width, 1% Duty cycle

Note2: Thermal Resistance from Junction to Case Per Leg

## RATINGS AND CHARACTERISTIC CURVES (MBRF10100D THRU MBRF10150D)

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

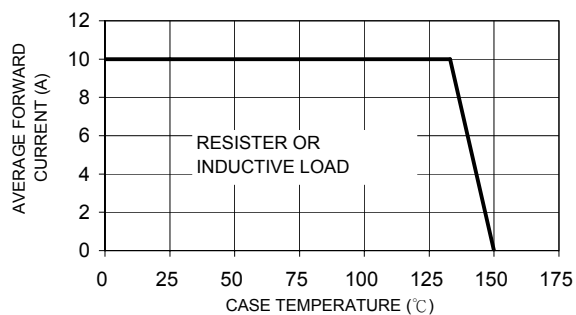


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

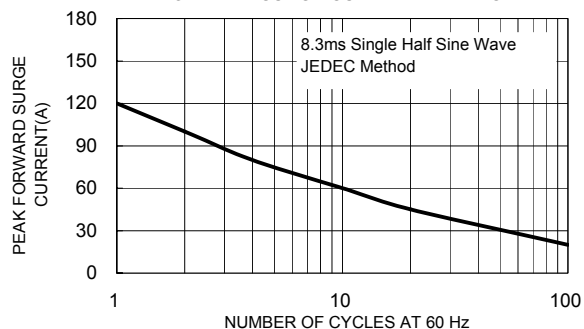


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

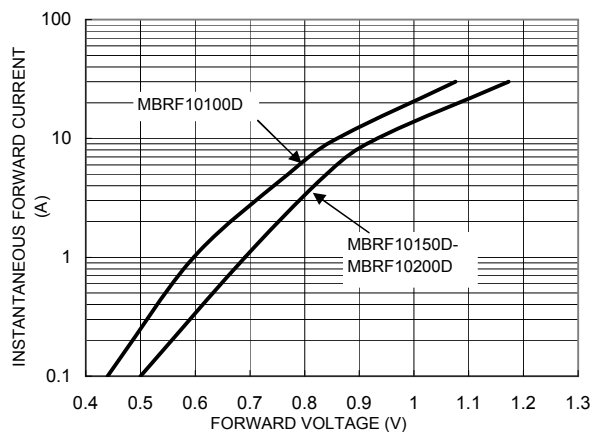


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

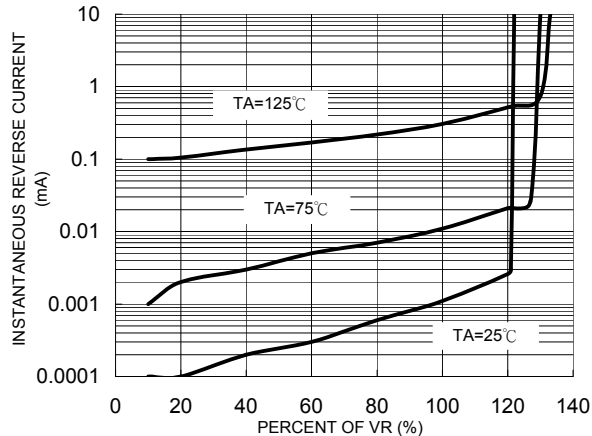


FIG. 5 TYPICAL JUNCTION CAPACITANCE

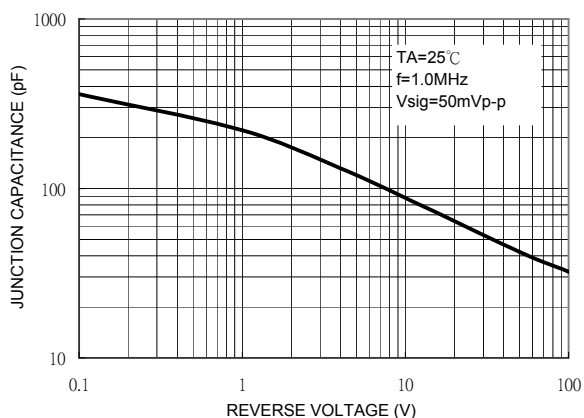


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

