

## MBR20100 thru MBR20200

### 20 Amp HT Power Schottky Barrier Rectifier

#### 100 Volts to 200 Volts

#### Features

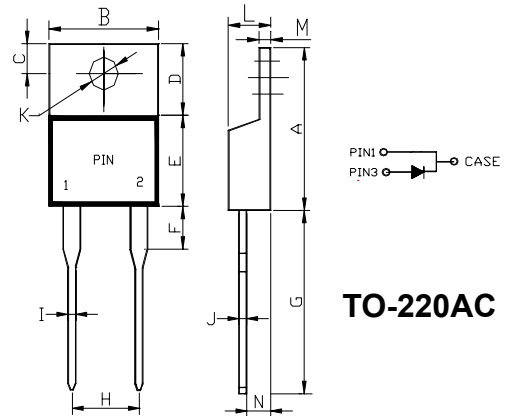
- \* High Junction Temperature Capability
- \* Low Leakage Current and Low Forward Voltage Drop
- \* Low Power Loss and High Efficiency

#### Maximum Ratings

- \* Operating Junction Temperature: 150°C
- \* Storage Temperature: - 55 °C to +175°C
- \* Per diode Thermal Resistance 2.2°C/W Junction to Case

#### Mechanical Data

- \* Case: Molded Plastic
- \* Terminals: Plated Lead Solderable per MIL-STD-202, Method 208
- \* Marking: Type Number
- \* Weight: 2.24 grams (approx)



| DIMENSIONS |        |       |       |       |      |
|------------|--------|-------|-------|-------|------|
| DIM        | INCHES |       | MM    |       | NOTE |
|            | MIN    | MAX   | MIN   | MAX   |      |
| A          | 0.560  | 0.625 | 14.22 | 15.88 |      |
| B          | 0.380  | 0.420 | 9.65  | 10.67 |      |
| C          | 0.100  | 0.135 | 2.54  | 3.43  |      |
| D          | 0.230  | 0.270 | 5.84  | 6.86  |      |
| E          | 0.380  | 0.420 | 9.65  | 10.67 |      |
| F          | -----  | 0.250 | ----- | 6.35  |      |
| G          | 0.500  | 0.580 | 12.70 | 14.73 |      |
| H          | 0.190  | 0.210 | 4.83  | 5.33  |      |
| I          | 0.020  | 0.045 | 0.51  | 1.14  |      |
| J          | 0.012  | 0.025 | 0.30  | 0.64  |      |
| K          | 0.139  | 0.161 | 3.53  | 4.09  | ϕ    |
| L          | 0.140  | 0.190 | 3.56  | 4.83  |      |
| M          | 0.045  | 0.055 | 1.14  | 1.40  |      |
| N          | 0.080  | 0.115 | 2.03  | 2.92  |      |

| Symbol             | Characteristics                                                                       | MBR20100                                                   | MBR20150 | MBR20200 | Unit  |
|--------------------|---------------------------------------------------------------------------------------|------------------------------------------------------------|----------|----------|-------|
| VRRM               | Maximum Recurrent Peak Reverse Voltage                                                | 100                                                        | 150      | 200      | V     |
| VRM                | Maximum DC Blocking Voltage                                                           | 100                                                        | 150      | 200      | V     |
| VR(RMS)            | Maximum RMS Voltage                                                                   | 70                                                         | 105      | 140      | V     |
| V <sub>F</sub>     | Maximum Forward Voltage Drop Per Element<br>I <sub>F</sub> =20A @T <sub>J</sub> =25°C | 0.90                                                       |          | 0.95     | V     |
| I <sub>F(AV)</sub> | Average Forward Current                                                               | 20                                                         |          |          | A     |
| I <sub>FSM</sub>   | 8.3ms Single Half-Sine-Wave<br>Superimposed On Rated Load                             | 150                                                        |          |          | A     |
| dv/dt              | Voltage Rate Of Change (Rated V <sub>R</sub> )                                        | 10000                                                      |          |          | V/us  |
| I <sub>R</sub>     | Maximum DC Reverse Current<br>At Rated DC Blocking Voltage                            | T <sub>J</sub> =25°C<br>0.2<br>T <sub>J</sub> =125°C<br>40 |          |          | mA    |
| R <sub>thJC</sub>  | Typical Thermal Resistance (Note 2)                                                   | 2.0                                                        |          |          | °C/ W |
| C <sub>J</sub>     | Typical Junction Capacitance (Note 3)                                                 | 400                                                        |          |          | pF    |
| T <sub>J</sub>     | Operating Temperature Range                                                           | -55to+150                                                  |          |          | °C    |
| T <sub>STG</sub>   | Storage Temperature Range                                                             | -55to+175                                                  |          |          | °C    |

NOTES: 1. 300us Pulse Width, Duty Cycle 2%.  
2. Thermal Resistance Junction To Case.  
3. Measured At 1.0MHz And Applied Reverse Voltage Of 4.0V DC.