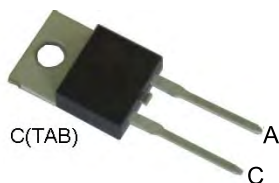


# MBR1070 thru MBR10100

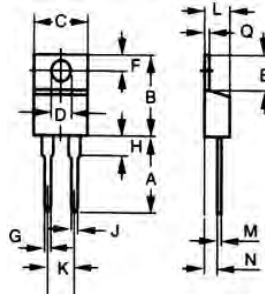
## High Tjm Low IRRM Schottky Barrier Diodes



A=Anode, C=Cathode, TAB=Cathode

|                 | $V_{RRM}$ | $V_{RMS}$ | $V_{DC}$ |
|-----------------|-----------|-----------|----------|
|                 | V         | V         | V        |
| <b>MBR1070</b>  | 70        | 49        | 70       |
| <b>MBR1080</b>  | 80        | 56        | 80       |
| <b>MBR1090</b>  | 90        | 63        | 90       |
| <b>MBR10100</b> | 100       | 70        | 100      |

Dimensions TO-220AC



| Dim. | Inches<br>Min. | Inches<br>Max. | Millimeter<br>Min. | Millimeter<br>Max. |
|------|----------------|----------------|--------------------|--------------------|
| A    | 0.500          | 0.580          | 12.70              | 14.73              |
| B    | 0.560          | 0.650          | 14.23              | 16.51              |
| C    | 0.380          | 0.420          | 9.66               | 10.66              |
| D    | 0.139          | 0.161          | 3.54               | 4.08               |
| E    | 2.300          | 0.420          | 5.85               | 6.85               |
| F    | 0.100          | 0.135          | 2.54               | 3.42               |
| G    | 0.045          | 0.070          | 1.15               | 1.77               |
| H    | -              | 0.250          | -                  | 6.35               |
| J    | 0.025          | 0.035          | 0.64               | 0.89               |
| K    | 0.190          | 0.210          | 4.83               | 5.33               |
| L    | 0.140          | 0.190          | 3.56               | 4.82               |
| M    | 0.015          | 0.022          | 0.38               | 0.56               |
| N    | 0.080          | 0.115          | 2.04               | 2.49               |
| Q    | 0.025          | 0.055          | 0.64               | 1.39               |

| Symbol          | Characteristics                                                                                                                       | Maximum Ratings      | Unit          |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------|----------------------|---------------|
| $I_{AV}$        | Maximum Average Forward Rectified Current @ $T_C=135^{\circ}C$                                                                        | 10                   | A             |
| $I_{FSM}$       | Peak Forward Surge Current 8.3ms Single Half-Sine-Wave Superimposed On Rated Load (JEDEC METHOD)                                      | 150                  | A             |
| $dv/dt$         | Voltage Rate Of Change (Rated $V_R$ )                                                                                                 | 10000                | V/us          |
| $V_F$           | Maximum Forward Voltage (Note 1)<br>$I_F=10A$ @ $T_J=25^{\circ}C$<br>$I_F=10A$ @ $T_J=125^{\circ}C$<br>$I_F=20A$ @ $T_J=125^{\circ}C$ | 0.85<br>0.75<br>0.80 | V             |
| $I_R$           | Maximum DC Reverse Current<br>At Rated DC Blocking Voltage<br>@ $T_J=25^{\circ}C$<br>@ $T_J=125^{\circ}C$                             | 0.1<br>100           | mA            |
| $R_{\theta JC}$ | Typical Thermal Resistance (Note 2)                                                                                                   | 2.0                  | $^{\circ}C/W$ |
| $C_J$           | Typical Junction Capacitance (Note 3)                                                                                                 | 1100                 | pF            |
| $T_J$           | Operating Temperature Range                                                                                                           | -55 to +150          | $^{\circ}C$   |
| $T_{STG}$       | Storage Temperature Range                                                                                                             | -55 to +175          | $^{\circ}C$   |

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.

### FEATURES

- \* Metal of silicon rectifier, majority carrier conduction
- \* Guard ring for transient protection
- \* Low power loss, high efficiency
- \* High current capability, low  $V_F$
- \* High surge capacity
- \* For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- \* RoHS compliant

### MECHANICAL DATA

- \* Case: TO-220AC molded plastic
- \* Polarity: As marked on the body
- \* Weight: 2 grams
- \* Mounting position: Any

**Sirectifier®**

# MBR1070 thru MBR10100

## High T<sub>jm</sub> Low IRRM Schottky Barrier Diodes

FIG.1 - FORWARD CURRENT DERATING CURVE

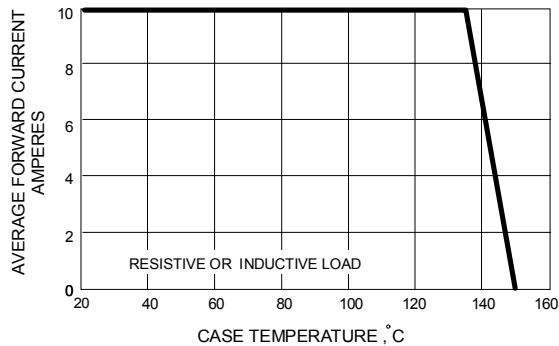


FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

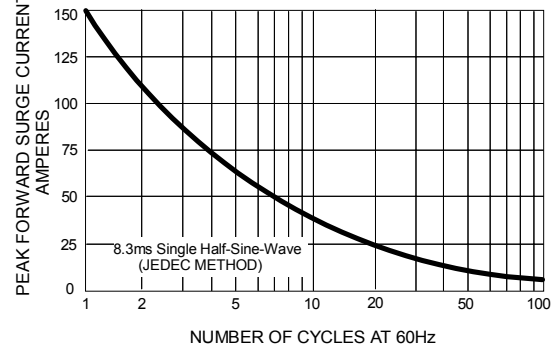


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

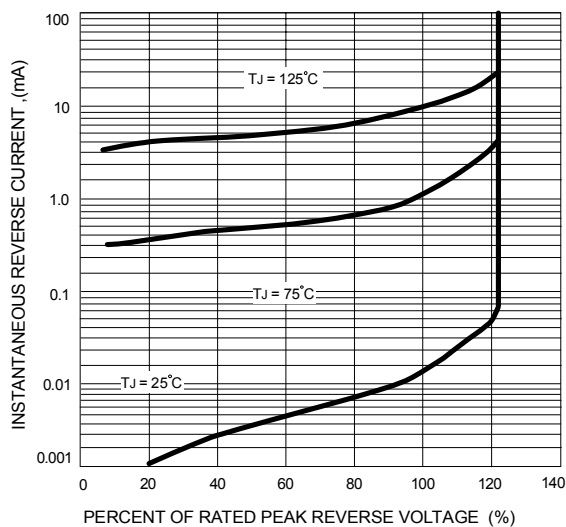


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

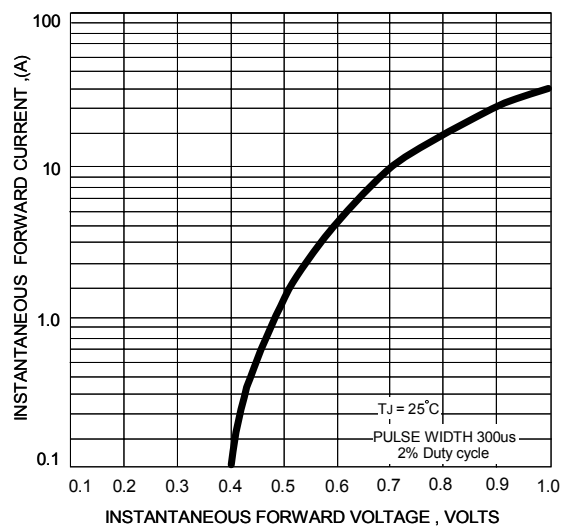


FIG.5 - TYPICAL JUNCTION CAPACITANCE

