



Micro Commercial Components  
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# MBR1020 THRU MBR10100

## Features

- Metal of siliconrectifier, majonty carrier conducton
- Guard ring for transient protection
- Low power loss high efficiency
- High surge capacity, High current capability

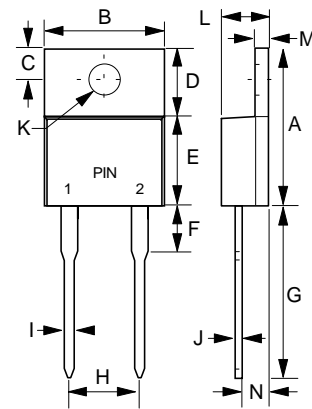
## Maximum Ratings

- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +175°C

# 10 Amp Schottky Barrier Rectifier 20 to 100 Volts

| Microsemi Catalog Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|--------------------------|----------------|--|---------------------|-----------------------------|
| MBR1020                  | MBR1020        | 20V                                    | 14V                 | 20V                         |
| MBR1030                  | MBR1030        | 30V                                    | 21V                 | 30V                         |
| MBR1035                  | MBR1035        | 35V                                    | 24.5V               | 35V                         |
| MBR1040                  | MBR1040        | 40V                                    | 28V                 | 40V                         |
| MBR1045                  | MBR1045        | 45V                                    | 31.5V               | 45V                         |
| MBR1060                  | MBR1060        | 60V                                    | 42V                 | 60V                         |
| MBR1080                  | MBR1080        | 80V                                    | 56V                 | 80V                         |
| MBR10100                 | MBR10100       | 100V                                   | 70V                 | 100V                        |

## TO-220AC



## Electrical Characteristics @ 25°C Unless Otherwise Specified

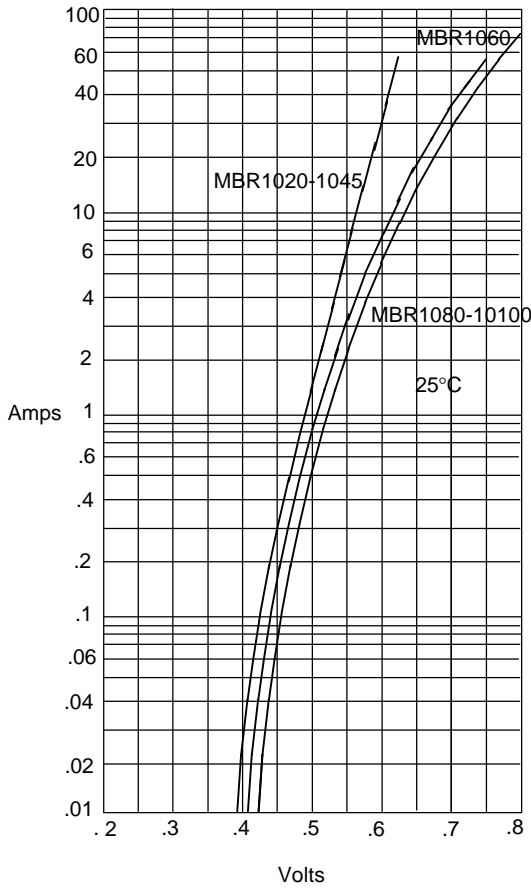
|   |             |                      |  |
|---|-------------|----------------------|--|
| Average Forward Current   | $I_{F(AV)}$ | 10A                  | $T_C = 125^\circ\text{C}$  |
| Peak Forward Surge Current  | $I_{FSM}$   | 150A                 | 8.3ms, half sine   |
| Maximum Forward Voltage Drop Per Element<br>MBR1020-1045<br>MBR1045-1060<br>MBR1080-10100 | $V_F$       | .84V<br>.95V<br>.84V | $I_{FM} = 20 \text{ A mper}$<br>$T_A = 25^\circ\text{C}$<br>$I_{FM} = 10 \text{ A mper}$ |
| Maximum DC Reverse Current At Rated DC Blocking Voltage<br>MBR1020-1045<br>MBR1060-10100  | IR          | 0.1mA<br>0.15mA      | $T_J = 25^\circ\text{C}$   |
| Typical Junction Capacitance  | $C_J$       | 400pF                | Measured at 1.0MHz, $V_R=4.0\text{V}$  |

| DIM | DIMENSIONS |      |       |       | NOTE |
|-----|------------|------|-------|-------|------|
|     | INCHES     |      | MM    |       |      |
| A   | .560       | .625 | 14.22 | 15.88 |      |
| B   | .380       | .420 | 9.65  | 10.67 |      |
| C   | .100       | .135 | 2.54  | 3.43  |      |
| D   | .230       | .270 | 5.84  | 6.86  |      |
| E   | .380       | .420 | 9.65  | 10.67 |      |
| F   | -----      | .250 | ----- | 6.35  |      |
| G   | .500       | .580 | 12.70 | 14.73 |      |
| H   | .190       | .210 | 4.83  | 5.33  |      |
| I   | .020       | .045 | 0.51  | 1.14  |      |
| J   | .012       | .025 | 0.30  | 0.64  |      |
| K   | .139       | .161 | 3.53  | 4.09  | ∅    |
| L   | .140       | .190 | 3.56  | 4.83  |      |
| M   | .045       | .055 | 1.14  | 1.40  |      |
| N   | .080       | .115 | 2.03  | 2.92  |      |

\*Pulse test: Pulse width 300 μsec, Duty cycle 1%

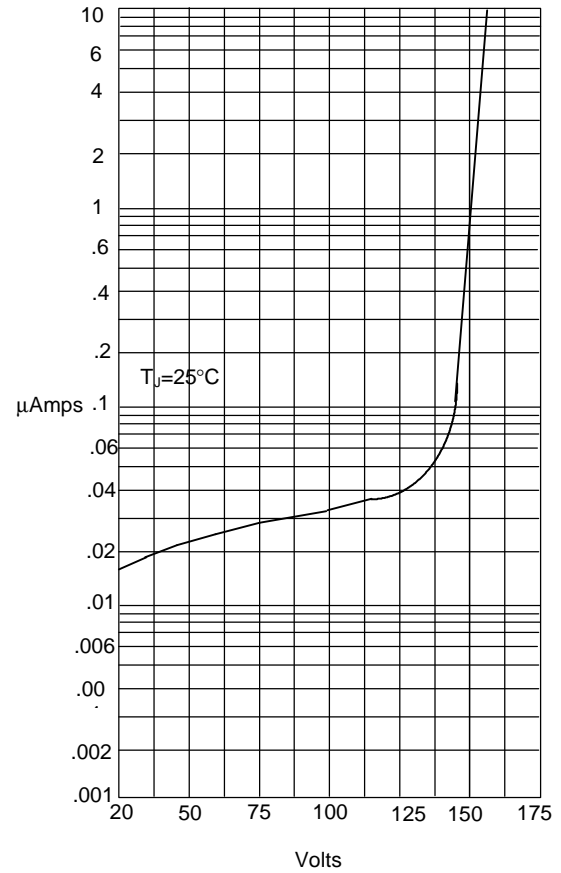
# MBR1020 thru MBR10100

Figure 1  
Typical Forward Characteristics



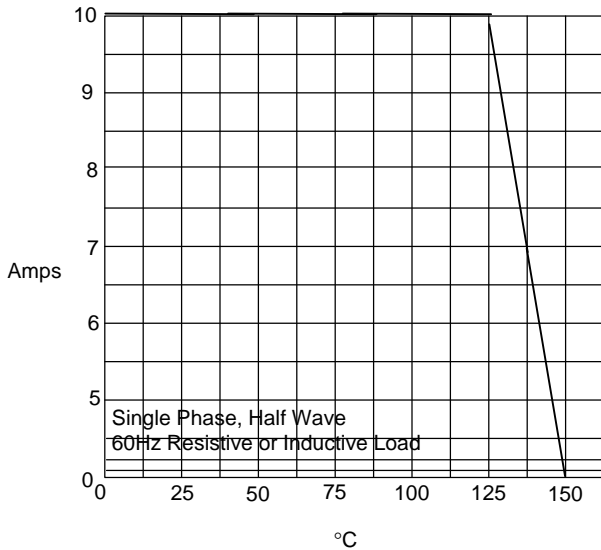
Instantaneous Forward Current - Amperes versus  
Instantaneous Forward Voltage - Volts

Figure 2  
Typical Reverse Characteristics



Instantaneous Reverse Leakage Current - MicroAmperes versus  
Percent Of Rated Peak Reverse Voltage - Volts

Figure 3  
Forward Derating Curve



Average Forward Rectified Current - Amperes versus  
Ambient Temperature - °C

Figure 4  
Peak Forward Surge Current



Peak Forward Surge Current - Amperes versus  
Number Of Cycles At 60Hz - Cycles

This datasheet has been download from:

[www.datasheetcatalog.com](http://www.datasheetcatalog.com)

Datasheets for electronics components.