



Micro Commercial Components

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## MBR1520 THRU MBR15100

## 15 Amp Schottky Barrier Rectifier 20 to 100 Volts

### Features

- Metal of silicon rectifier, majority carrier conduction
- Guard ring for transient protection
- Low power loss high efficiency
- High surge capacity, High current capability
- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix designates RoHS Compliant. See ordering information)
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL Rating 1

### Maximum Ratings

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

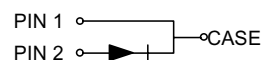
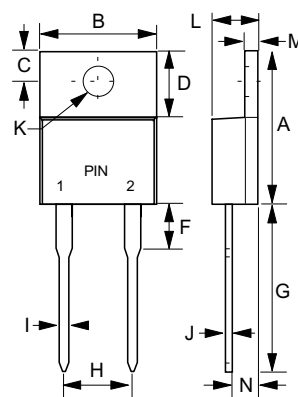
| MCC Catalog Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|--------------------|----------------|----------------------------------------|---------------------|-----------------------------|
| MBR1520            | MBR1520        | 20V                                    | 14V                 | 20V                         |
| MBR1530            | MBR1530        | 30V                                    | 21V                 | 30V                         |
| MBR1535            | MBR1535        | 35V                                    | 24.5V               | 35V                         |
| MBR1540            | MBR1540        | 40V                                    | 28V                 | 40V                         |
| MBR1545            | MBR1545        | 45V                                    | 31.5                | 45V                         |
| MBR1560            | MBR1560        | 60V                                    | 42V                 | 60V                         |
| MBR1580            | MBR1580        | 80V                                    | 56V                 | 80V                         |
| MBR15100           | MBR15100       | 100V                                   | 70V                 | 100V                        |

### Electrical Characteristics @ 25°C Unless Otherwise Specified

|                                                                            |             |                      |                                                         |
|----------------------------------------------------------------------------|-------------|----------------------|---------------------------------------------------------|
| Average Forward Current                                                    | $I_{F(AV)}$ | 15A                  | $T_C = 125^\circ\text{C}$                               |
| Peak Forward Surge Current                                                 | $I_{FSM}$   | 150A                 | 8.3ms, half sine                                        |
| Maximum Forward Voltage Drop Per Element MBR1520-1545 MBR1560 MBR1580-1500 | $V_F$       | .63V<br>.75V<br>.84V | $I_{FM} = 15 \text{ Amper}$<br>$T_A = 25^\circ\text{C}$ |
| Maximum DC Reverse Current At Rated DC Blocking Voltage                    | IR          | 0.2 mA               | $T_J = 25^\circ\text{C}$                                |

Notes:1.High Temperature Solder Exemption Applied, see EU Directive Annex 7.

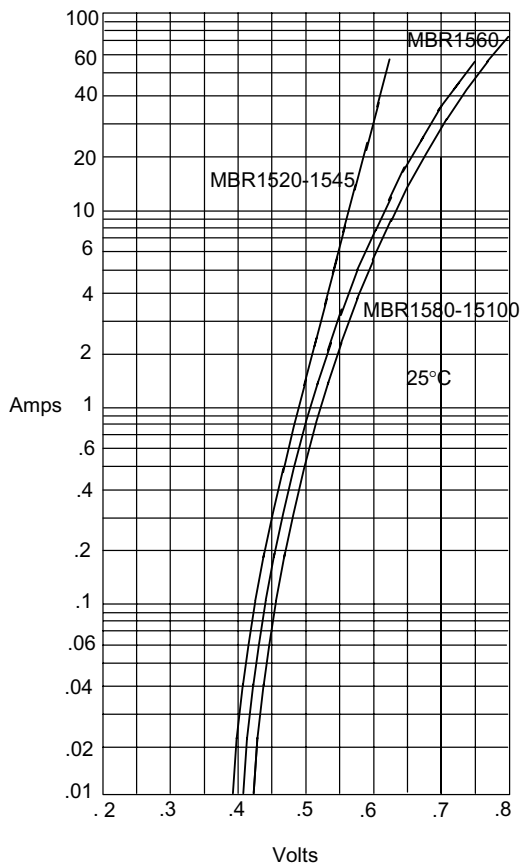
### TO-220AC



| DIM | INCHES |      | MM    |       | NOTE |
|-----|--------|------|-------|-------|------|
|     | MIN    | MAX  | MIN   | MAX   |      |
| 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  |      |
| 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  | Ø    |
| L   | .140   | .190 | 3.56  | 4.83  |      |
| M   | .045   | .055 | 1.14  | 1.40  |      |
| N   | .080   | .115 | 2.03  | 2.92  |      |

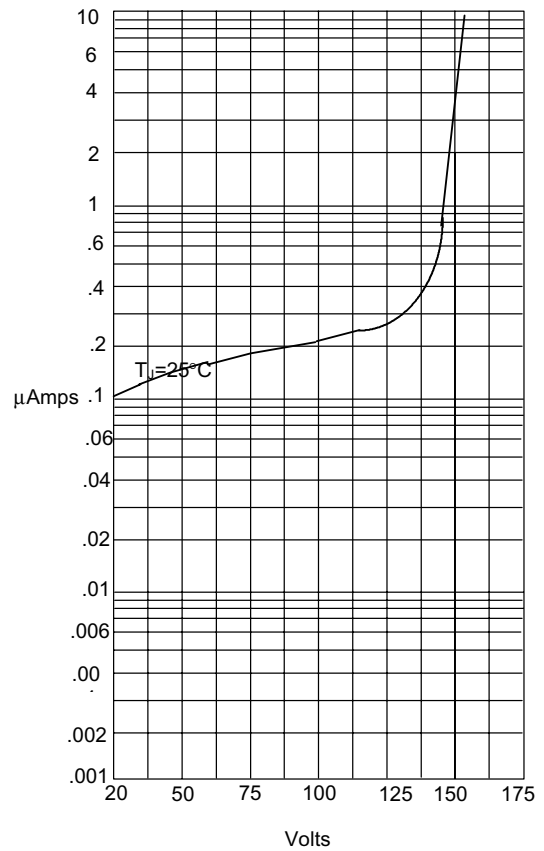
## MBR1520 thru MBR15100

Figure 1  
Typical Forward Characteristics



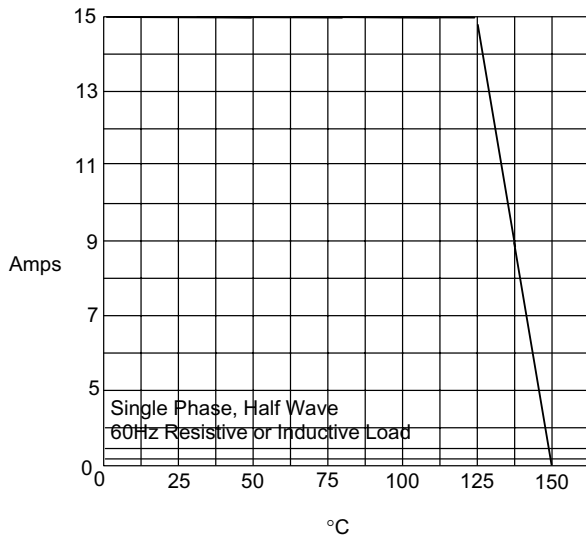
Instantaneous Forward Current - Amperes *versus*  
Instantaneous Forward Voltage - Volts

Figure 2  
Typical Reverse Characteristics



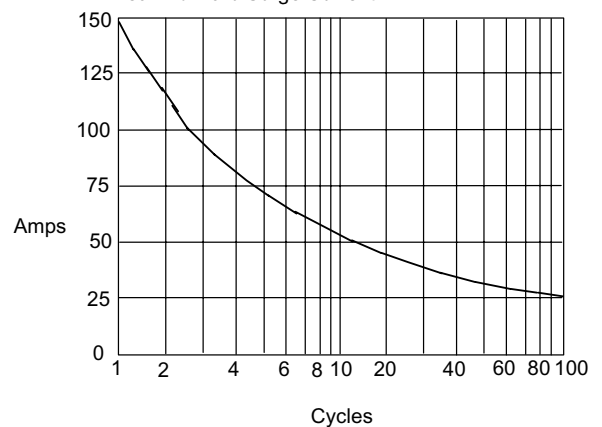
Instantaneous Reverse Leakage Current - MicroAmperes *versus*  
Percent Of Rated Peak Reverse Voltage - Volts

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

## Ordering Information

| Device           | Packing        |
|------------------|----------------|
| (Part Number)-BP | Bulk;1Kpcs/Box |

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