



Micro Commercial Components

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## MBR1620 THRU MBR1660

### 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

## 16 Amp Schottky Barrier Rectifier 20 to 60 Volts

### Maximum Ratings

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

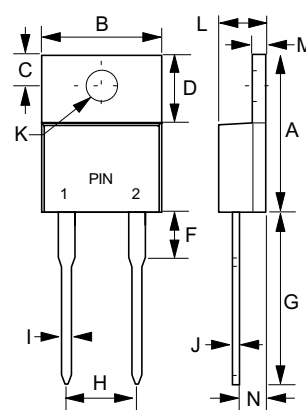
| MCC Catalog Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|--------------------|----------------|----------------------------------------|---------------------|-----------------------------|
| MBR1620            | MBR1620        | 20V                                    | 14V                 | 20V                         |
| MBR1630            | MBR1630        | 30V                                    | 21V                 | 30V                         |
| MBR1635            | MBR1635        | 35V                                    | 24.5V               | 35V                         |
| MBR1640            | MBR1640        | 40V                                    | 28V                 | 40V                         |
| MBR1645            | MBR1645        | 45V                                    | 31.5V               | 45V                         |
| MBR1660            | MBR1660        | 60V                                    | 42V                 | 60V                         |

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

|                                                                                                               |             |                              |                                                                                                                |
|---------------------------------------------------------------------------------------------------------------|-------------|------------------------------|----------------------------------------------------------------------------------------------------------------|
| Average Forward Current                                                                                       | $I_{F(AV)}$ | 16A                          | $T_C = 125^\circ\text{C}$                                                                                      |
| Peak Forward Surge Current                                                                                    | $I_{FSM}$   | 150A                         | 8.3ms, half sine                                                                                               |
| Maximum Forward Voltage Drop Per Element<br>MBR1620-1645<br>MBR1660<br>MBR1620-1645<br>MBR1660                | $V_F$       | .63V<br>.75V<br>.57V<br>.65V | $I_{FM} = 16A$<br>$T_J = 25^\circ\text{C}$<br>$T_J = 125^\circ\text{C}$                                        |
| Maximum DC Reverse Current At Rated DC Blocking Voltage<br>MBR1620-1645<br>MBR1660<br>MBR1620-1645<br>MBR1660 | $I_R$       | 0.2mA<br>1mA<br>40mA<br>50mA | $T_J = 25^\circ\text{C}$<br>$T_J = 25^\circ\text{C}$<br>$T_J = 125^\circ\text{C}$<br>$T_J = 125^\circ\text{C}$ |
| Typical Junction Capacitance                                                                                  | $C_J$       | 450pF                        | Measured at 1.0MHz, $V_R=4.0V$                                                                                 |

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

### TO-220AC

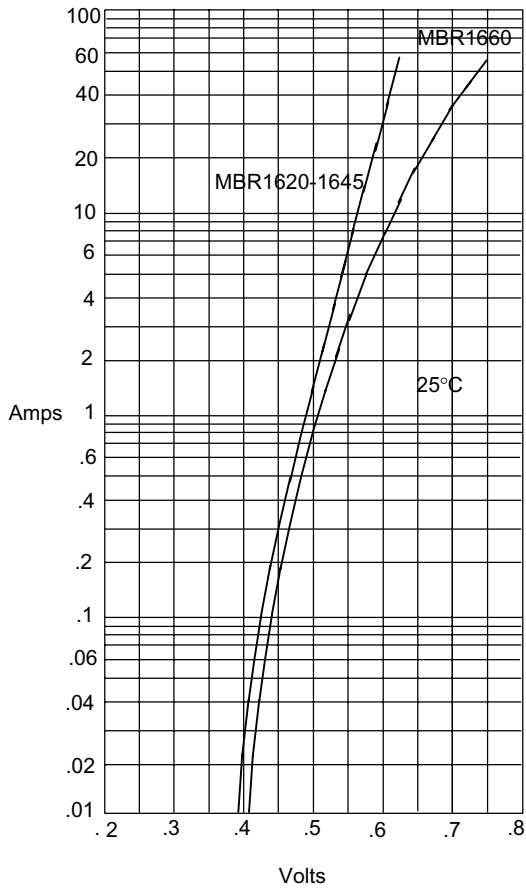


PIN 1 CASE  
PIN 2

| 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  |      |

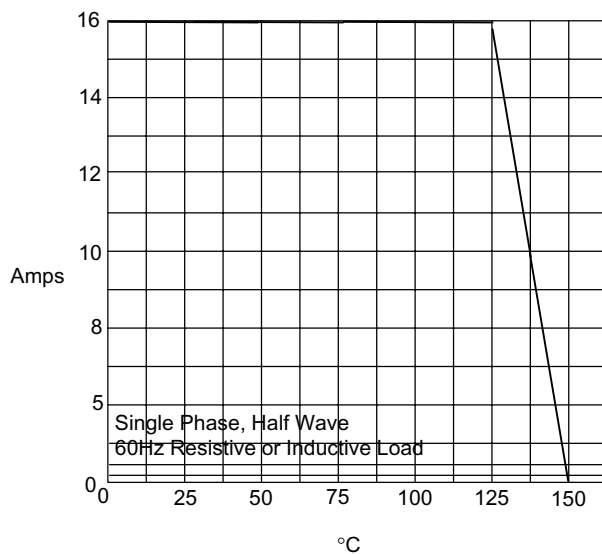
## MBR1620 thru MBR1660

Figure 1  
Typical Forward Characteristics



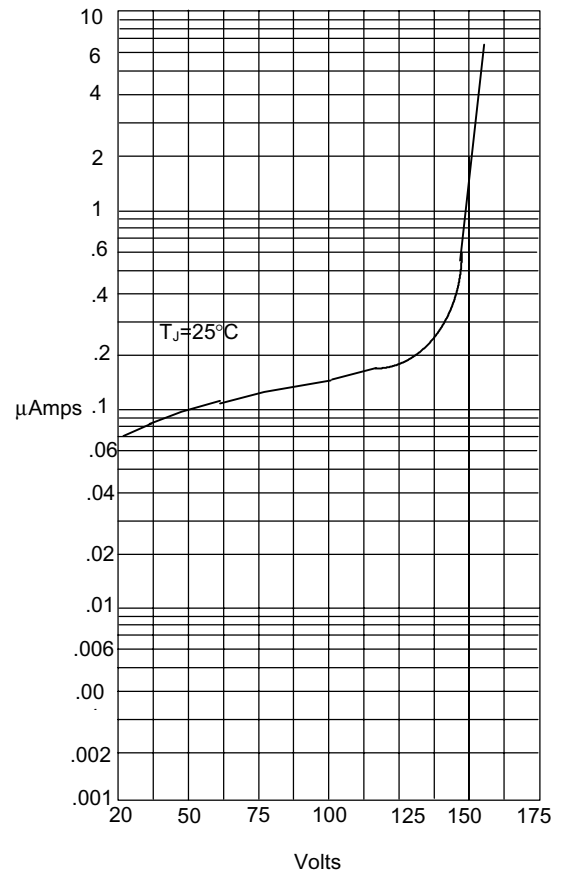
Instantaneous Forward Current - Amperes versus  
Instantaneous Forward Voltage - Volts

Figure 3  
Forward Derating Curve



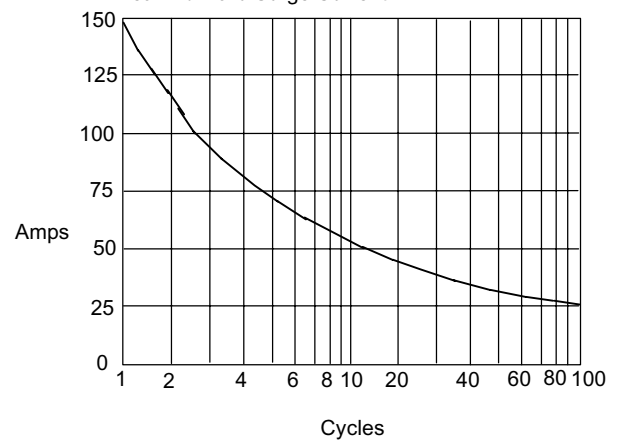
Average Forward Rectified Current - Amperes versus  
Ambient Temperature - °C

Figure 2  
Typical Reverse Characteristics



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

Figure 4  
Peak Forward Surge Current



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



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Ordering Information

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

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