



SCHOTTKY BARRIER RECTIFIER

MBR3020 THRU MBR30100

VOLTAGE RANGE
CURRENT

20 to 100Volts
30 Ampere

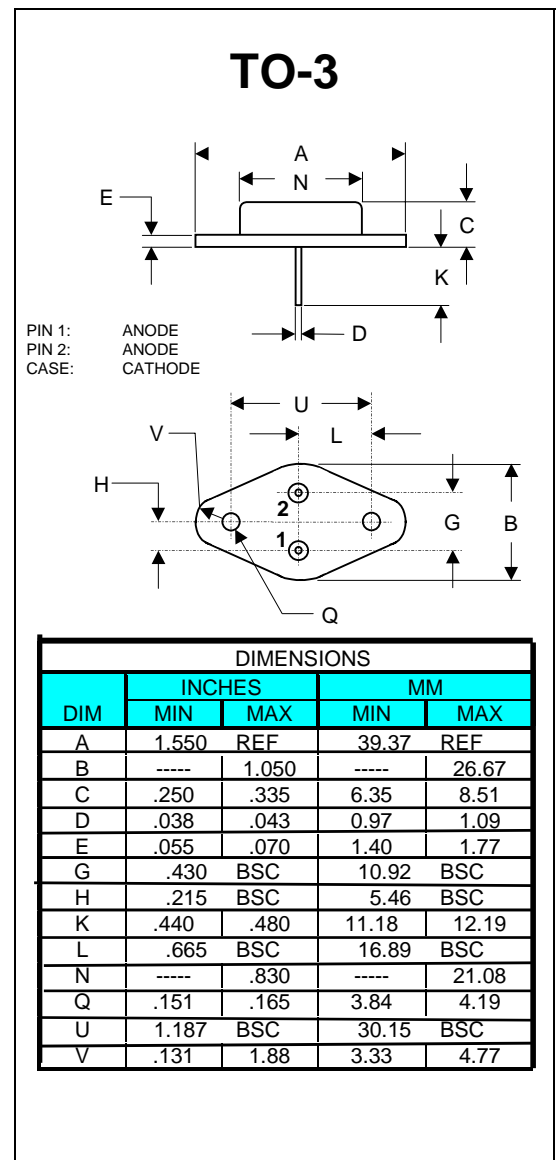
Features

- 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 +150°C

| MCC Part Number | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|-----------------|----------------------------------------|---------------------|-----------------------------|
| MBR3020 | 20V | 14V | 20V |
| MBR3030 | 30V | 21V | 30V |
| MBR3035 | 35V | 24.5V | 35V |
| MBR3040 | 40V | 28V | 40V |
| MBR3045 | 45V | 31.5V | 45V |
| MBR3060 | 60V | 42V | 60V |
| MBR3080 | 80V | 56V | 80V |
| MBR30100 | 100V | 70V | 100V |



Electrical Characteristics @ 25°C Unless Otherwise Specified

| | | | |
|---------------------------------------------------------|-------------|-------|-----------------------------------------------|
| Average Forward Current | $I_{F(AV)}$ | 30 A | $T_L = 105^\circ\text{C}$ |
| Peak Forward Surge Current | I_{FSM} | 400A | 8.3ms, half sine |
| Maximum Instantaneous Forward Voltage | V_F | | $I_{FM} = 30.0A;$ $T_A = 25^\circ\text{C}$ |
| MBR3020-3045 | | .63 V | |
| MBR3060 | | .75 V | |
| MBR3080-30100 | | .84 V | |
| Maximum DC Reverse Current At Rated DC Blocking Voltage | I_R | 1.0mA | $T_A = 25^\circ\text{C}$ |
| Typical Junction Capacitance | C_J | 200pF | Measured at 1.0MHz, $V_R=4.0V$ |

*Pulse Test: Pulse Width 300μsec, Duty Cycle 1%



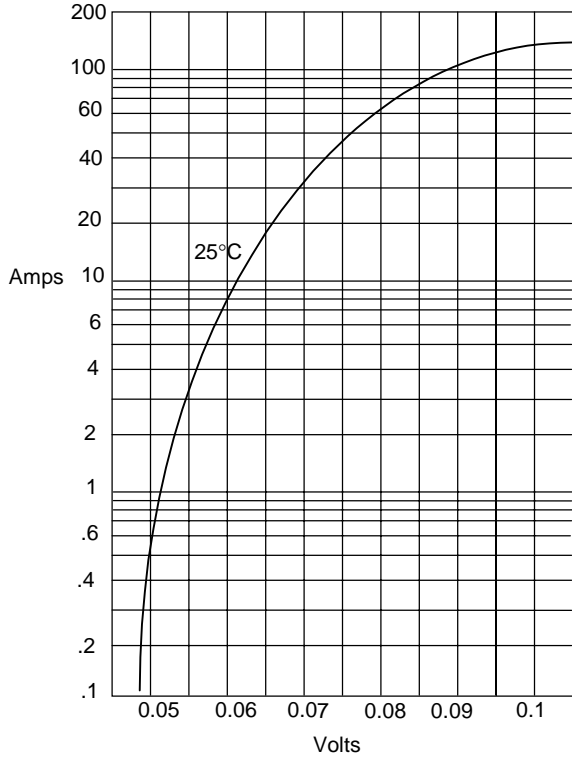
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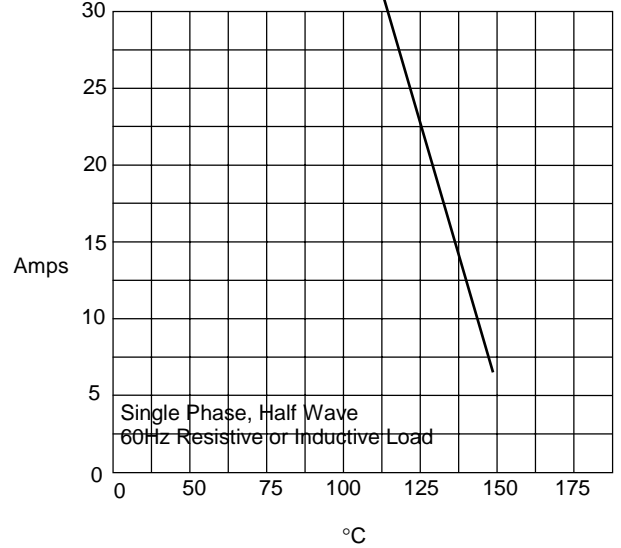
20 to 100Volts
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Figure 1
Typical Forward Characteristics



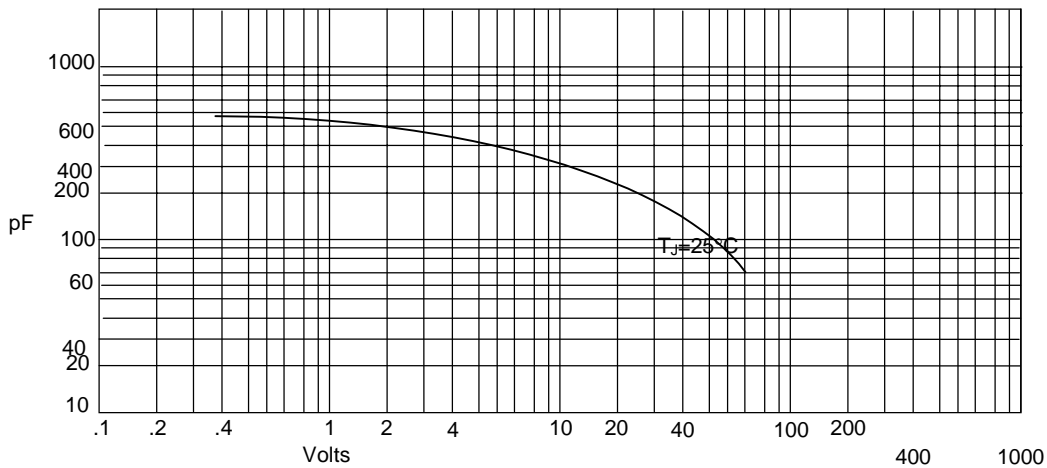
Instantaneous Forward Current - Amperes versus
Instantaneous Forward Voltage - Volts

Figure 2
Forward Derating Curve



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

Figure 3
Junction Capacitance



Junction Capacitance - pF versus
Reverse Voltage - Volts

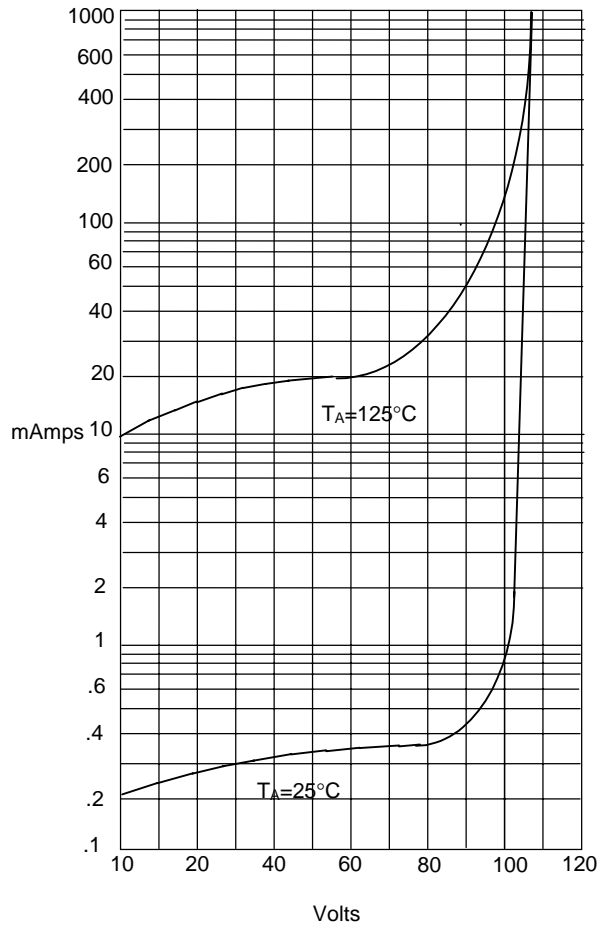


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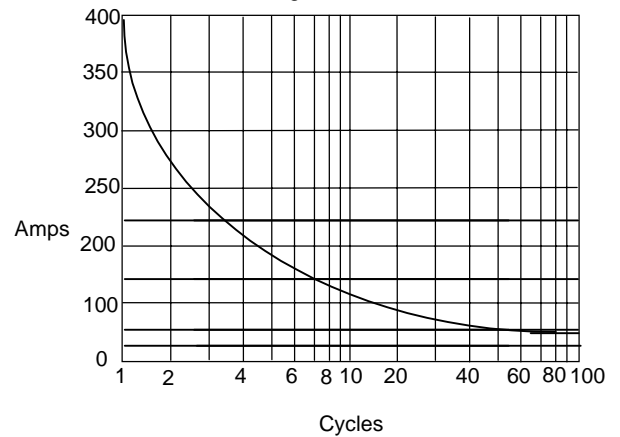
VOLTAGE RANGE 20 to 100Volts
CURRENT 30 Ampere

Figure 4
Typical Reverse Characteristics



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

Figure 5
Peak Forward Surge Current



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