



Micro Commercial Components  
 21201 Itasca Street Chatsworth  
 CA 91311  
 Phone: (818) 701-4933  
 Fax: (818) 701-4939

# MBR5020WT THRU MBR50100WT

## Features

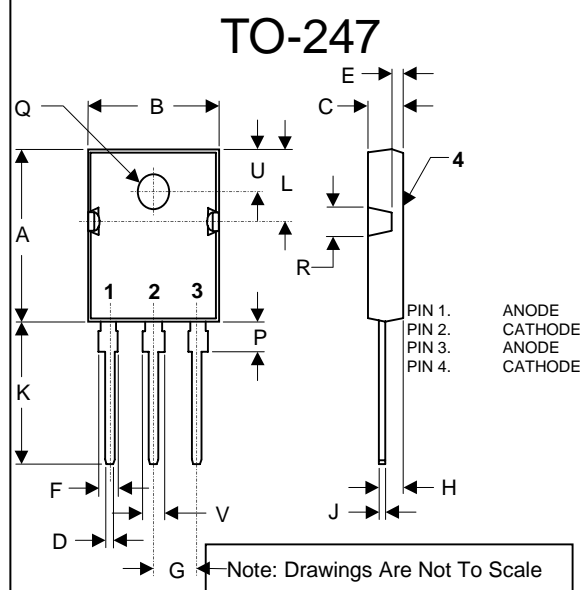
- High Surge Capacity
- Low Power Loss, High Efficiency
- High Current Capability, Low  $V_F$
- Metal of silicon Rectifier, majority Carrier Conduction
- Guard Ring For Transient Protection
- Plastic Package Has UL Flammability Classification 94V-0

## Maximum Ratings

- Operating Temperature:  $-55^{\circ}\text{C}$  to  $+150^{\circ}\text{C}$
- Storage Temperature:  $-55^{\circ}\text{C}$  to  $+150^{\circ}\text{C}$

| MCC Part Number | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|-----------------|--|---------------------|-----------------------------|
| MBR5020WT       | 20V                                    | 14V                 | 20V                         |
| MBR5030WT       | 30V                                    | 21V                 | 30V                         |
| MBR5035WT       | 35V                                    | 24.5V               | 35V                         |
| MBR5040WT       | 40V                                    | 28V                 | 40V                         |
| MBR5045WT       | 45V                                    | 31.5V               | 45V                         |
| MBR5060WT       | 60V                                    | 42V                 | 60V                         |
| MBR5080WT       | 80V                                    | 56V                 | 80V                         |
| MBR50100WT      | 100V                                   | 70V                 | 100V                        |

## 50 Amp Schottky Barrier Rectifier 20 to 100 Volts



## Electrical Characteristics @ 25°C Unless Otherwise Specified

|   |             |                      |  |
|---|-------------|----------------------|--|
| Average Forward Current   | $I_{F(AV)}$ | 50.0A                | $T_C=125^{\circ}\text{C}$  |
| Peak Forward Surge Current  | $I_{FSM}$   | 200A                 | 8.3ms half sine  |
| Maximum Instantaneous Forward Voltage<br>MBR5020WT-5045WT<br>MBR5060WT<br>MBR5080WT-50100WT | $V_F$       | .62V<br>.75V<br>.84V | $I_{FM}=30.0\text{A}$<br>$I_{FM}=25.0\text{A}$<br>$T_A=25^{\circ}\text{C}$ |
| Maximum DC Reverse Current At Rated DC Blocking Voltage                                     | $I_R$       | 0.1mA                | $T_C=25^{\circ}\text{C}$   |
| Typical Junction Capacitance  | $C_j$       | pF                   | Measured at 1.0MHz, $V_R=4.0\text{V}$                                      |

| DIM | DIMENSIONS |      |       |       | NOTE |
|-----|------------|------|-------|-------|------|
|     | INCHES     |      | MM    |       |      |
|     | MIN        | MAX  | MIN   | MIN   |      |
| A   | .803       | .823 | 20.40 | 20.90 |      |
| B   | .608       | .628 | 15.44 | 15.95 |      |
| C   | .185       | .205 | 4.70  | 5.21  |      |
| D   | .043       | .051 | 1.09  | 1.30  |      |
| E   | .059       | .064 | 1.50  | 1.63  |      |
| F   | .071       | .086 | 1.80  | 2.18  |      |
| G   | .215       | BSC  | 5.45  | BSC   |      |
| H   | .101       | .130 | 2.56  | 2.87  |      |
| J   | .019       | .027 | 0.48  | 0.68  |      |
| K   | .613       | .633 | 15.57 | 16.08 |      |
| L   | .286       | .295 | 7.26  | 7.50  |      |
| P   | .122       | .133 | 3.10  | 3.38  |      |
| Q   | .138       | .145 | 3.50  | 3.70  |      |
| R   | .130       | .150 | 3.30  | 3.80  |      |
| U   | .209       | BSC  | 5.30  | BSC   |      |
| V   | .120       | .134 | 3.05  | 3.40  |      |

Pulse test: Pulse width 300 usec, duty cycle 2%.

# MBR5020WT thru MBR50100WT

Figure 1  
Typical Forward Characteristics – Per Leg

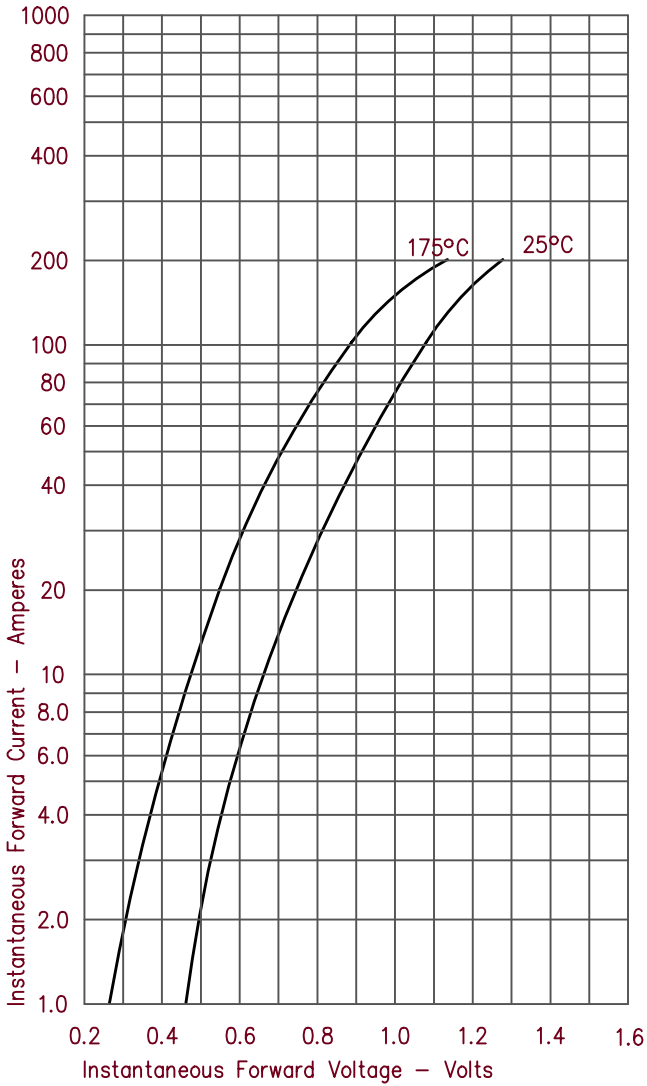


Figure 3  
Typical Junction Capacitance – Per Leg

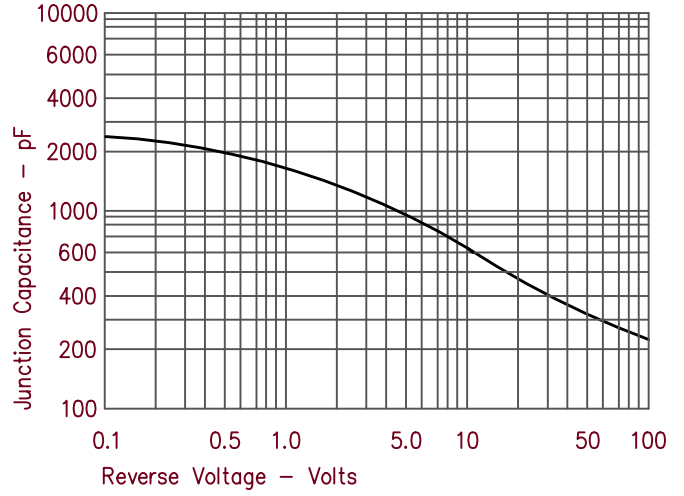


Figure 4  
Forward Current Derating – Per Leg

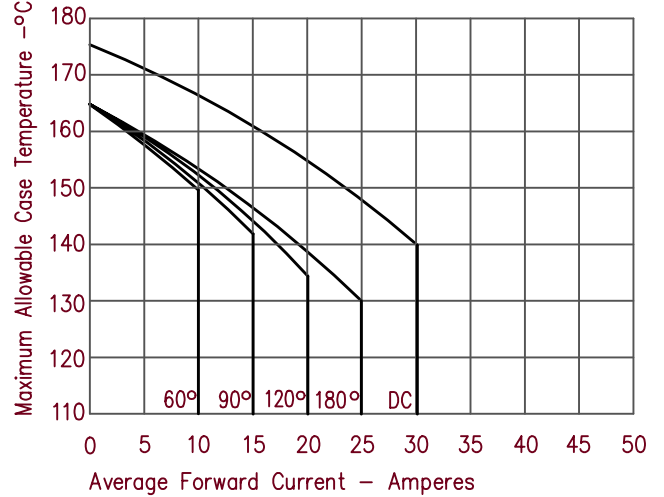


Figure 2  
Typical Reverse Characteristics – Per Leg

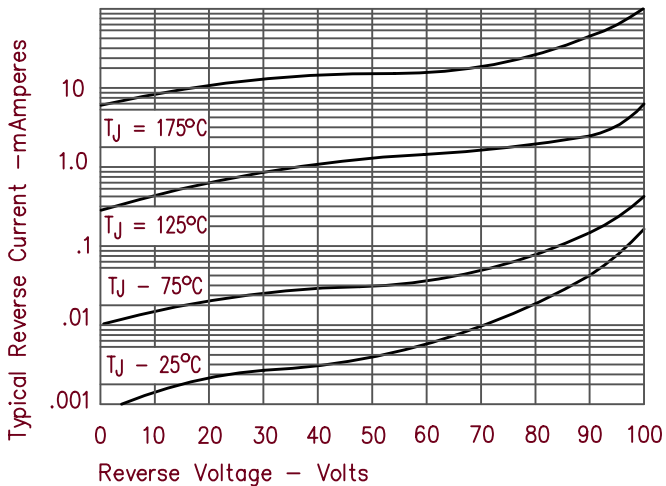


Figure 5  
Maximum Forward Power Dissipation – Per Leg

