



Micro Commercial Components  
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## 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  $+150^{\circ}\text{C}$

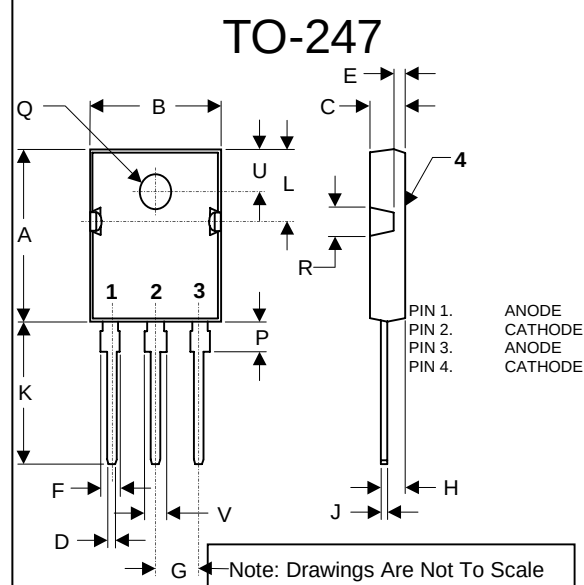
| MCC Part Number | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|-----------------|----------------------------------------|---------------------|-----------------------------|
| MBR5020WT       | 20V                                    | 14V                 | 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                        |

### Electrical Characteristics @ $25^{\circ}\text{C}$ 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, $V_R = 4.0\text{V}$                                          |

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

### 50 Amp Schottky Barrier Rectifier 20 to 100 Volts



| DIMENSIONS |        |      |       |       |      |
|------------|--------|------|-------|-------|------|
| DIM        | INCHES |      | MM    |       | NOTE |
|            | 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  |      |

# MBR5020WT thru MBR50100WT

Figure 1  
Typical Forward Characteristics – Per Leg

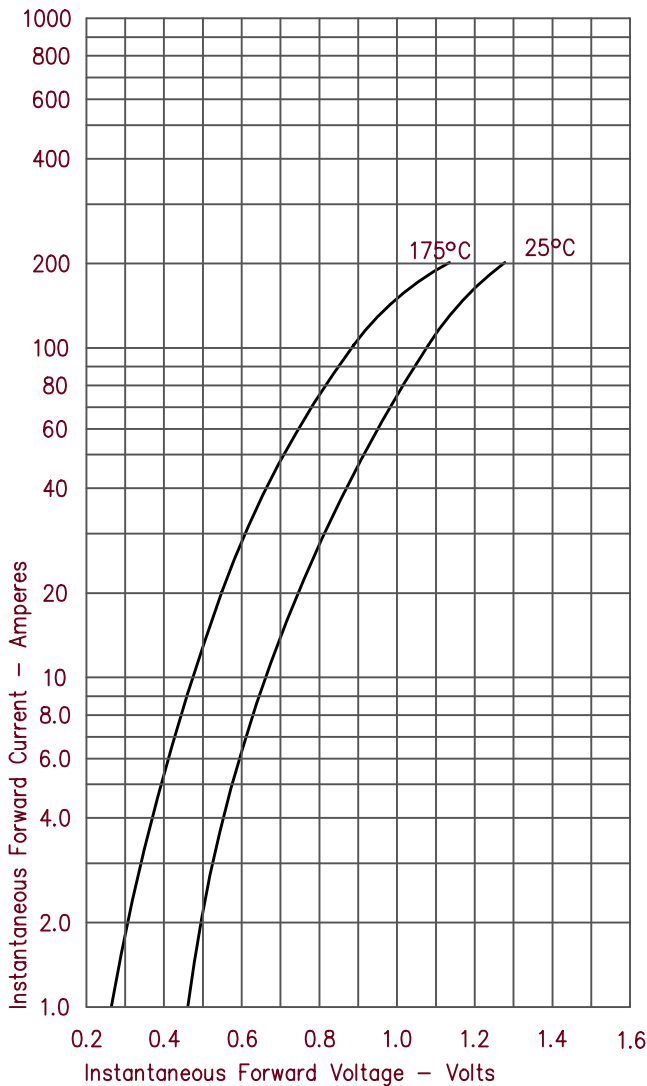


Figure 3  
Typical Junction Capacitance – Per Leg

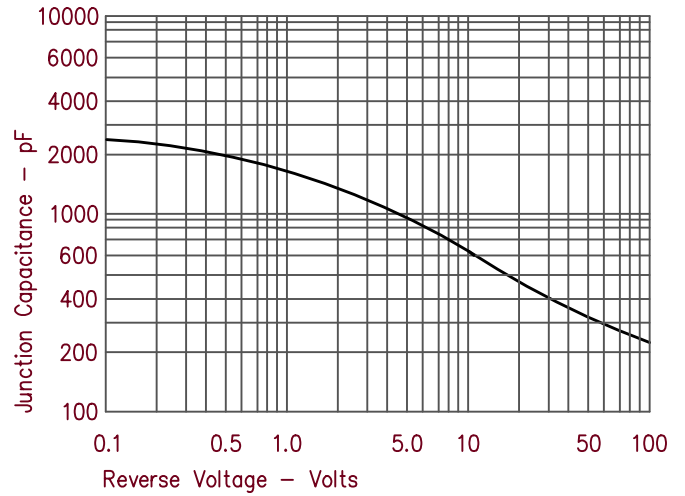


Figure 4  
Forward Current Derating – Per Leg

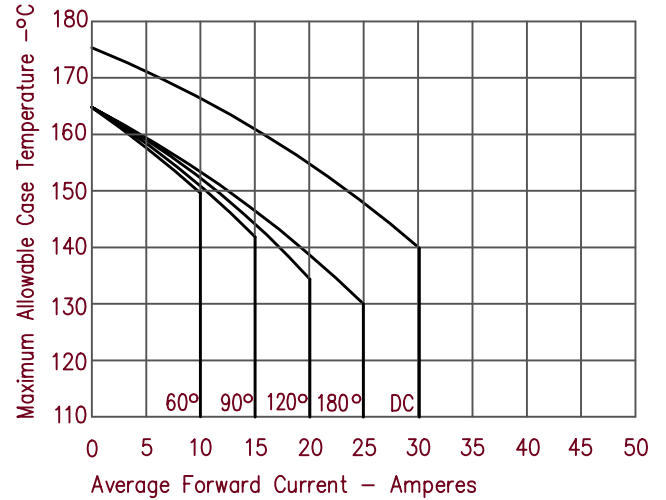


Figure 2  
Typical Reverse Characteristics – Per Leg

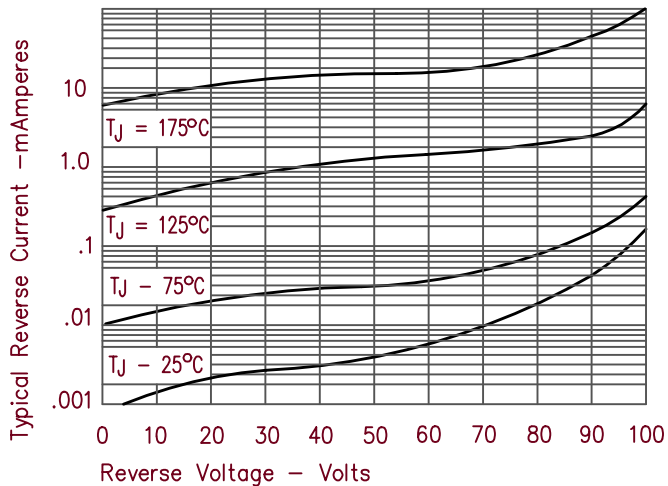


Figure 5  
Maximum Forward Power Dissipation – Per Leg

