



Micro Commercial Components



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# MP5005W THRU MP5010W

## 50 Amp Single Phase Bridge Rectifier 50 to 1000 Volts

### Features

- Any Mounting Position
- Mounting Hole For #8 Screw
- Plastic Case with Metal Bottom
- Halogen free available upon request by adding suffix "-HF"
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Lead Free Finish/Rohs Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)

### Maximum Ratings

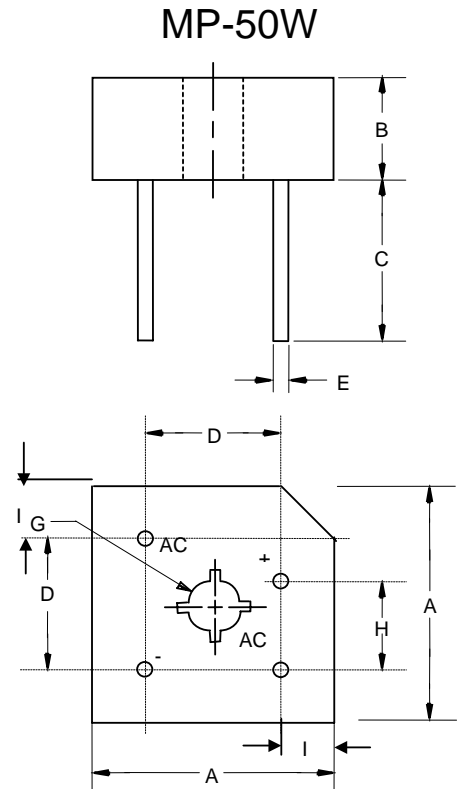
- Mounting Torque: 2.0 N.m, Tolerance: +/-10%
- Operating Temperature: -50°C to +150°C
- Storage Temperature: -50°C to +150°C
- UL Recognized File # E165989

| MCC Catalog Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|--------------------|----------------|--|---------------------|-----------------------------|
| MP5005W            | MP5005W        | 50V                                    | 35V                 | 50V                         |
| MP501W             | MP501W         | 100V                                   | 70V                 | 100V                        |
| MP502W             | MP502W         | 200V                                   | 140V                | 200V                        |
| MP504W             | MP504W         | 400V                                   | 280V                | 400V                        |
| MP506W             | MP506W         | 600V                                   | 420V                | 600V                        |
| MP508W             | MP508W         | 800V                                   | 560V                | 800V                        |
| MP5010W            | MP5010W        | 1000V                                  | 700V                | 1000V                       |

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

|   |             |                           |   |
|---|-------------|---------------------------|---|
| Average Forward Current                                 | $I_{F(AV)}$ | 50.0A                     | $T_C = 55^\circ\text{C}$  |
| Peak Forward Surge Current                              | $I_{FSM}$   | 400A                      | 8.3ms, half sine  |
| Maximum Forward Voltage Drop Per Element                | $V_F$       | 1.2V                      | $I_{FM} = 25\text{A}$ per element;<br>$T_J = 25^\circ\text{C}$ (Note 2) |
| Maximum DC Reverse Current At Rated DC Blocking Voltage | $I_R$       | 10 $\mu\text{A}$<br>1.0mA | $T_J = 25^\circ\text{C}$<br>$T_J = 100^\circ\text{C}$                   |
| Typical Thermal Resistance                              | $R_{thJC}$  | 1.6°C/W                   | Per Leg   |

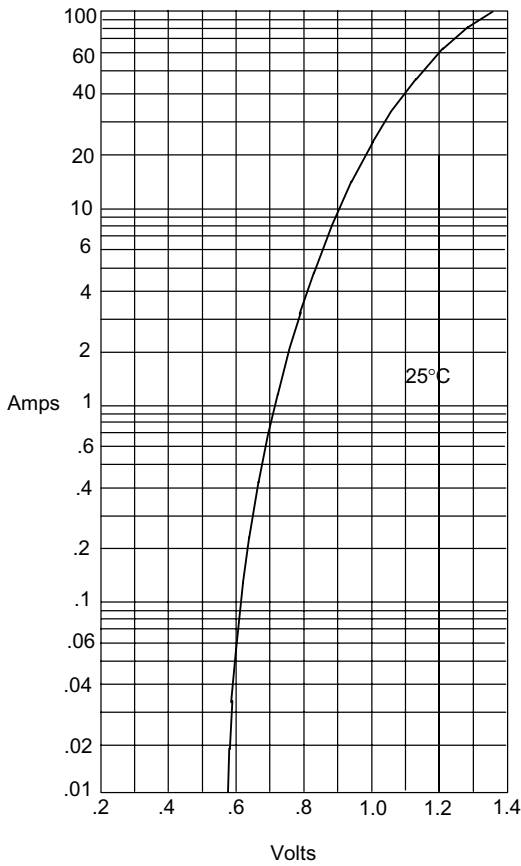
Notes: 1. High Temperature Solder Exemption Applied, see EU Directive Annex Notes 7  
 2. Pulse Test: Pulse Width 300usec, Duty Cycle 1%



| DIM | DIMENSIONS |       |       |       | NOTE    |
|-----|------------|-------|-------|-------|---------|
|     | INCHES     |       | MM    |       |         |
| A   | 1.118      | 1.130 | 28.40 | 28.70 |         |
| B   | .432       | .442  | 10.97 | 11.23 |         |
| C   | .769       | ---   | 19.53 | ---   |         |
| D   | .673       | .752  | 17.10 | 19.10 |         |
| E   | .038       | .042  | .97   | 1.07  | 4PL/TYP |
| G   | .193       | ---   | 4.90  | ---   | ∅       |
| H   | .429       | .468  | 10.90 | 11.90 |         |
| I   | .169       | .236  | 4.30  | 6.00  |         |

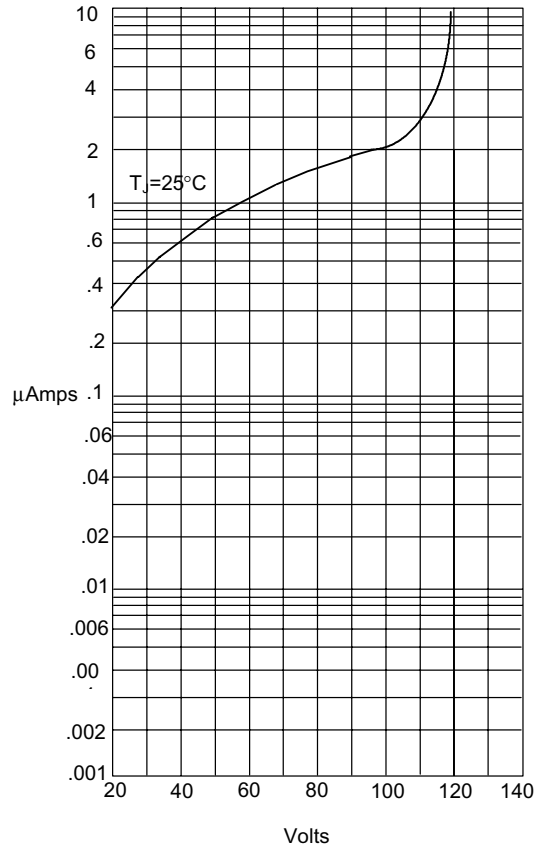
**MP5005W thru MP5010W**

Figure 1  
Typical Forward Characteristics



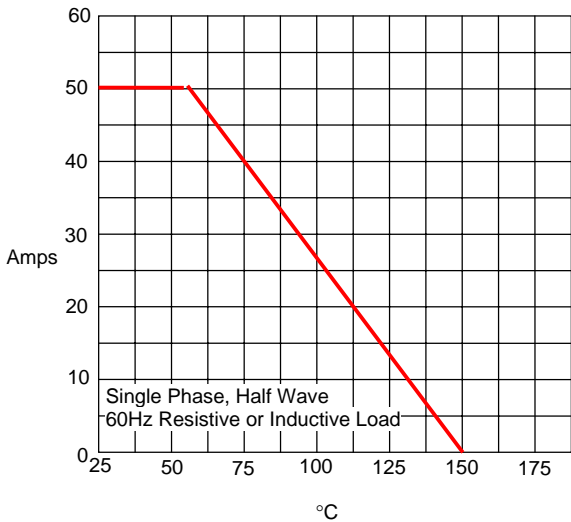
Instantaneous Forward Current - Amperes versus  
Instantaneous Forward Voltage - Volts

Figure 2  
Typical Reverse Characteristics



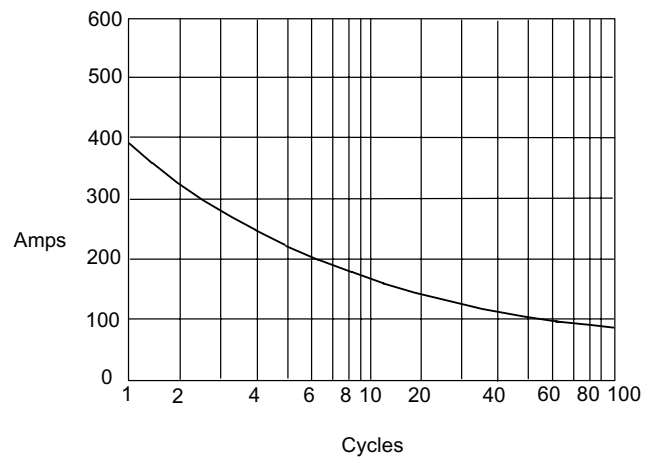
Instantaneous Reverse Leakage Current - MicroAmperes versus  
Percent Of Rated Peak Reverse Voltage - Volts

Figure 3  
Forward Derating Curve



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

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; 400Pcs/Ctn |

Note : Adding "-HF" suffix for halogen free, eg. Part Number-BP-HF

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