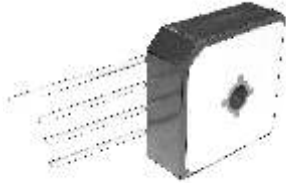


**10.0 A Single-Phase Silicon Bridge Rectifier**  
Rectifier Reverse Voltage 50 to 1000V

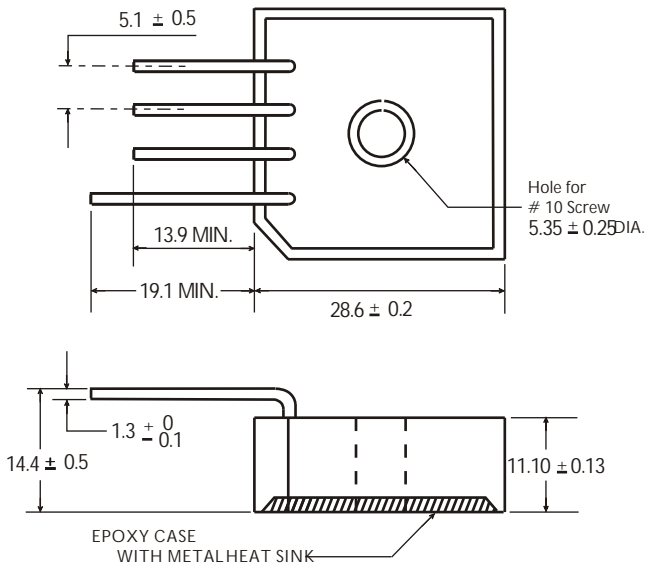


**Features**

- This series is UL listed under the Recognized Component Index, file number E142814
- Single In-Line terminals array suitable for P.C. board mounting
- Surge overload ratings to 300 amperes
- The plastic material used carries Underwriters Laboratory flammability recognition 94V-0
- Integrally molded heat sinks provide low thermal resistance for maximum heat dissipation
- High temperature soldering guaranteed 265°C/10 seconds at 5 lbs (2.3kg) tension

**Mechanical Data**

Case: Molded plastic with heat sink integrally mounted in the bridge encapsulation  
 Terminals: Plated wire leads solderable per MIL-STD-202, Method 208  
 Mounting Position: Any  
 Weight: 0.6 ounce, 17 grams (approx)



Dimensions in millimeters (1mm=0.0394")

**Maximum Ratings & Thermal Characteristics**

Rating at 25°C ambient temperature unless otherwise specified, Resistive or Inductive load, 60 Hz.  
 For Capacitive load derate current by 20%.

| Parameter   | Symbol           | MP 10005S    | MP 1001S | MP 1002S | MP 1004S | MP 1006S | MP 1008S | MP 1010S | Unit               |
|---|------------------|--------------|----------|----------|----------|----------|----------|----------|--------------------|
| Maximum repetitive peak reverse voltage   | VRRM             | 50           | 100      | 200      | 400      | 600      | 800      | 1000     | V                  |
| Maximum RMS bridge input voltage  | VRMS             | 35           | 70       | 140      | 280      | 420      | 560      | 700      | v                  |
| Maximum DC blocking voltage   | VDC              | 50           | 100      | 200      | 400      | 600      | 800      | 1000     | v                  |
| Maximum average forward rectified output current at TA=55°C                           | IF(AV)           | 10           |          |          |          |          |          |          | A                  |
| Peak forward surge current single sine-wave superimposed on rated load (JEDEC Method) | IFSM             | 300          |          |          |          |          |          |          | A                  |
| Rating for fusing ( t<8.3ms)  | I <sup>2</sup> t | 374          |          |          |          |          |          |          | A <sup>2</sup> sec |
| Typical thermal resistance per element(1)   | ReJA             | 2.0          |          |          |          |          |          |          | °C/ W              |
| Operating junction and storage temperature range                                      | TJ, TSTG         | -55 to + 150 |          |          |          |          |          |          | °C                 |

**Electrical Characteristics**

Rating at 25°C ambient temperature unless otherwise specified. Resistive or Inductive load, 60Hz.  
 For Capacitive load derate by 20 %.

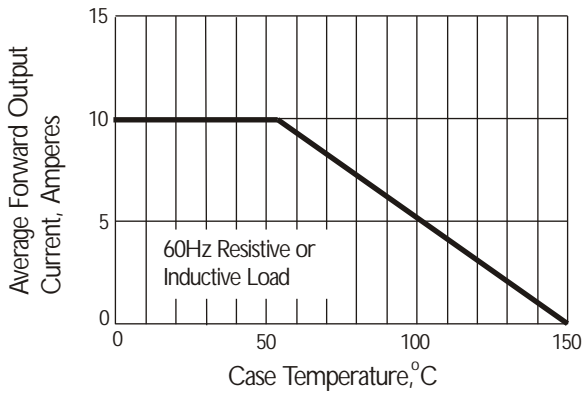
| Parameter  | Symbol | MP 10005S | MP 1001S | MP 1002S | MP 1004S | MP 1006S | MP 1008S | MP 1010S | Unit |
|--|--------|-----------|----------|----------|----------|----------|----------|----------|------|
| Maximum instantaneous forward voltage drop per leg at 5.0A                             | VF     | 1.05      |          |          |          |          |          |          | V    |
| Maximum DC reverse current at rated TA =25°C DC blocking voltage per element TA =125°C | IR     | 10<br>500 |          |          |          |          |          |          | μA   |

**Notes:** (1)Thermal resistance from Junction to Ambient on P.C.board mounting.

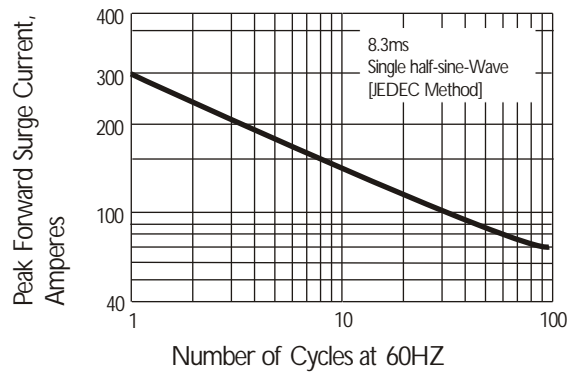
# Rating and Characteristic Curves ( $T_A=25^{\circ}\text{C}$ Unless otherwise noted )

## MP10005S thru MP1010S

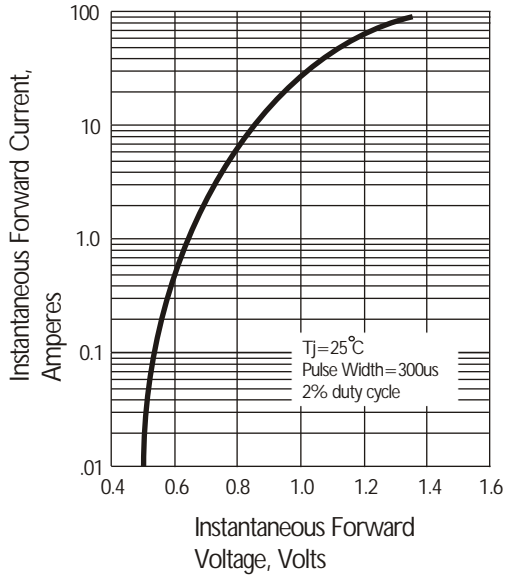
**Fig. 1 Derating Curve for Output Rectified Current**



**Fig. 2 Maximum Non-repetitive Peak Forward Surge Current**



**Fig. 3 Typical Instantaneous Forward Characteristics**



**Fig. 4 Typical Reverse Characteristics at  $T_J=25^{\circ}\text{C}$**

