

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
- Integrally molded heat sinks provide low thermal resistance for maximum heat dissipation
- Surge overload ratings to 300 amperes
- The plastic material used carries Underwriters Laboratory flammability recognition 94V-0
- Universal 4-way terminals, snap-on, wrap-around, solder or P.C. Board mounting
- High temperature soldering guaranteed 265°C/10 seconds at 5 lbs (2.3kg) tension

Mechanical Data

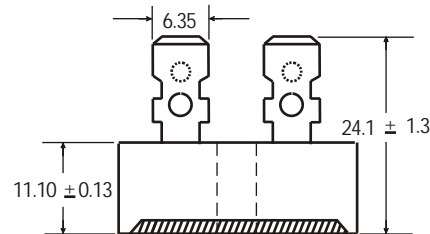
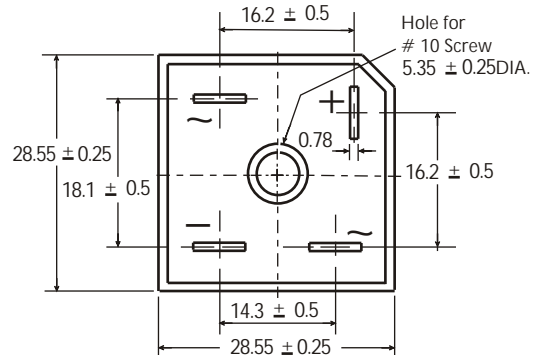
Case: Molded plastic with heat sink integrally mounted in the bridge encapsulation

Terminals: Plated .25" (6.53mm) Faston

Mounting Position: Bolt down on heat-sink with silicone thermal compound between bridges and mounting surface for maximum heat transfer efficiency

Mounting Position: Any

Weight: 0.706 ounce, 20 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 10005 | MP 1001 | MP 1002 | MP 1004 | MP 1006 | MP 1008 | MP 1010 | 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 ² t | 374 | | | | | | | A ² sec |
| Typical thermal resistance per element (1) | ReJA | 2.1 | | | | | | | °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 10005 | MP 1001 | MP 1002 | MP 1004 | MP 1006 | MP 1008 | MP 1010 | 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 | 10 500 | | | | | | | 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)

MP10005 thru MP1010

Fig. 1 Derating Curve for Output Rectified Current

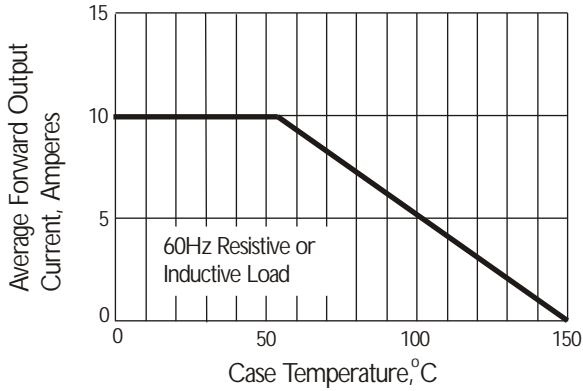


Fig. 2 Maximum Non-repetitive Peak Forward Surge Current

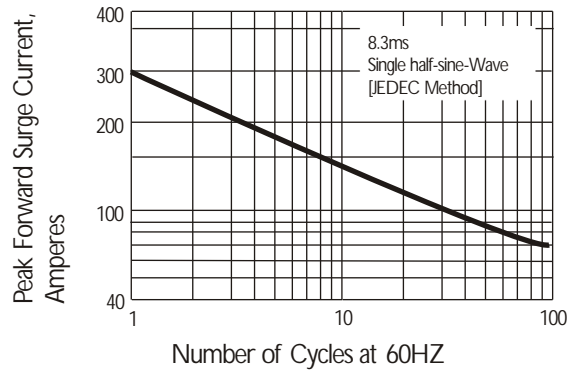


Fig. 3 Typical Instantaneous Forward Characteristics

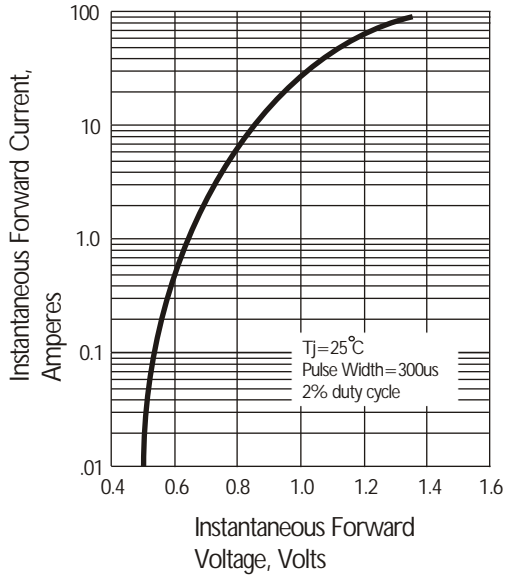


Fig. 4 Typical Reverse Characteristics at T_J=25°C

