

MBXS SERIES

**MINIATURE SINGLE-PHASE GLASS PASSIVATED SURFACE MOUNT
BRIDGE RECTIFIER**

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MB05S THRU MB10S

MINIATURE SINGLE-PHASE GLASS PASSIVATED SURFACE MOUNT BRIDGE RECTIFIER

REVERSE VOLTAGE: 50 to 1000 VOLTS

FORWARD CURRENT: 0.8 AMPERE

FEATURES

- Glass passivated chip junction
- Low forward voltage drop
- High surge overload rating of 35 Amperes peak
- Ideal for printed circuit board
- High temperature soldering guaranteed:
260°C for 10 seconds

MECHANICAL DATA

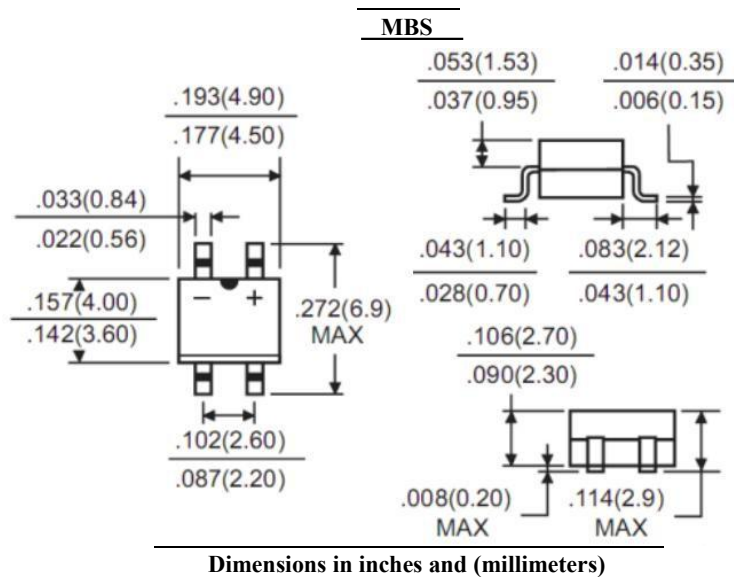
Case: Molded plastic, MBS

Epoxy: UL 94V-O rate flame retardant

Terminals: Pure tin plated, lead free, Leads solderable
per MIL-STD-202, method 208 guaranteed

Mounting position: as Marking

Weight: 0.114gram



Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

| | Symbols | MB05S | MB1S | MB2S | MB4S | MB6S | MB8S | MB10S | Units |
|---|-----------------|-------------|------|------|------|------|------|-------|-------|
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts |
| Maximum RMS Voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | Volts |
| Maximum DC Blocking Voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts |
| Maximum Average Forward Rectified Current (see Fig. 1) on glass-epoxy P.C.B (Note 2) on aluminum substrate (Note 3) | I_{AV} | 0.5 0.8 | | | | | | | Amp |
| Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method) | I_{FSM} | 35 | | | | | | | Amp |
| Maximum Forward Voltage at 0.4A DC and 25°C | V_F | 1.0 | | | | | | | Volts |
| Maximum Reverse Current at $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage $T_A=125^\circ\text{C}$ | I_R | 5.0 500 | | | | | | | uAmp |
| Typical Junction Capacitance (Note 1) | C_J | 13 | | | | | | | pF |
| Typical Thermal Resistance (Note 3) | $R_{\theta JA}$ | 70 | | | | | | | °C/W |
| Typical Thermal Resistance (Note 2) | $R_{\theta JL}$ | 20 | | | | | | | °C/W |
| Operating and Storage Temperature Range | T_J, T_{stg} | -55 to +150 | | | | | | | °C |

NOTES:

1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.

2- On glass epoxy P.C.B. mounted on 0.05 x 0.05" (1.3 x 1.3mm) pads

3- On aluminum substrate P.C.B. with an area of 0.8" x 0.8" (20 x 20mm) mounted on 0.05 x 0.05" (1.3 x 1.3mm) solder pad

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RATINGS AND CHARACTERISTIC CURVES

Fig. 1 - Derating Curve for Output Rectified Current

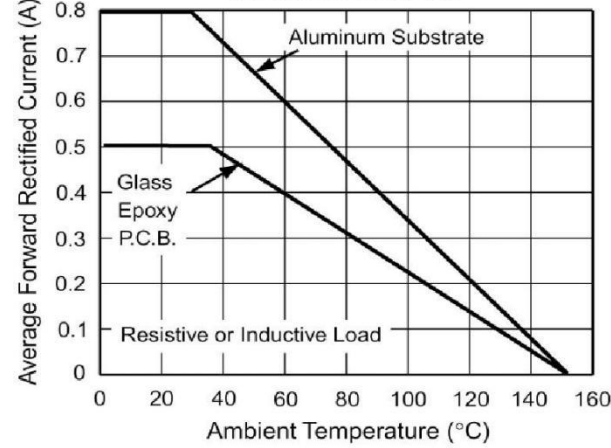


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Leg

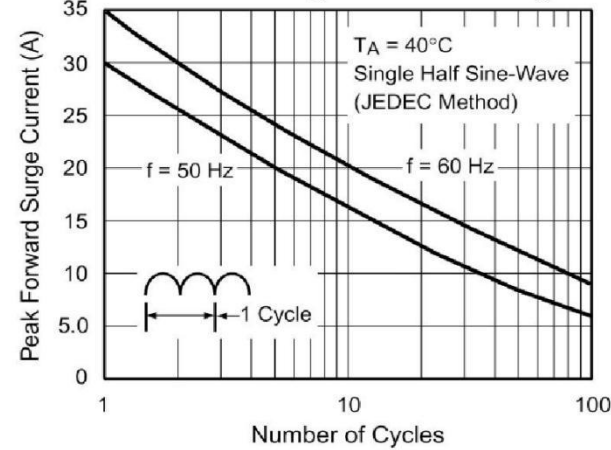


Fig. 3 - Typical Forward Voltage Characteristics Per Leg

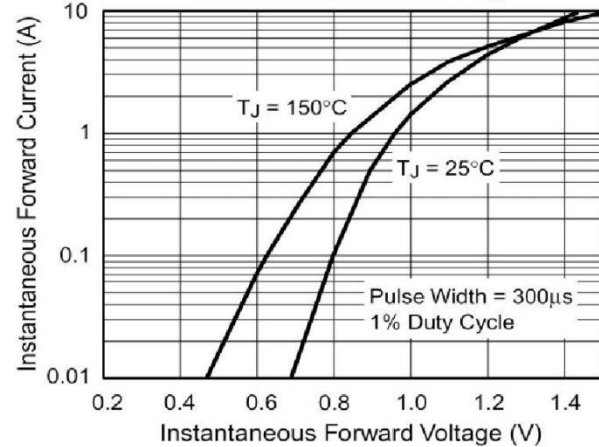


Fig. 4 - Typical Reverse Leakage Characteristics Per Leg

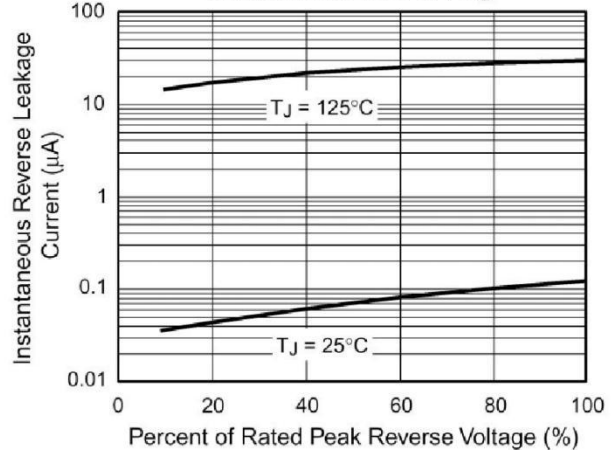


Fig. 5 - Typical Junction Capacitance Per Leg

