



## MB05S thru MB10S

### 1.0 A Single-Phase Glass Passivated Bridge Rectifiers

Rectifier Reverse Voltage 50 to 1000V

#### Features

- Ideal for surface mount application
- The plastic material used carries Underwriters Laboratory flammability recognition 94V-0
- Surge overload ratings to 30 amperes
- High temperature soldering guaranteed 260°C/5 seconds at 5 lbs (2.3kg) tension

#### Mechanical Data

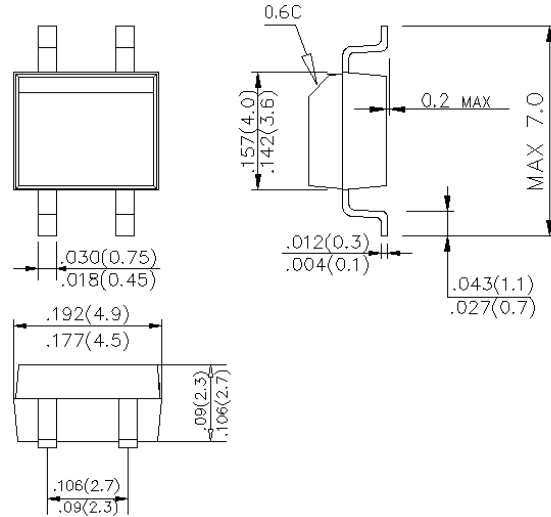
Case: Molded plastic

Terminals: Plated leads solderable per MIL-STD-202, Method 208

Polarity: Marked on body

Mounting Position: Any

Weight: 0.11 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          | MB05S        | MB1S | MB2S | MB4S | MB6S | MB8S | MB10S | Unit                      |
|---------------------------------------------------------------------------------------|-----------------|--------------|------|------|------|------|------|-------|---------------------------|
| Maximum repetitive peak reverse voltage                                               | $V_{RRM}$       | 50           | 100  | 200  | 400  | 600  | 800  | 1000  | V                         |
| Maximum RMS bridge input voltage                                                      | $V_{RMS}$       | 35           | 70   | 140  | 280  | 420  | 560  | 700   | V                         |
| Maximum DC blocking voltage                                                           | $V_{DC}$        | 50           | 100  | 200  | 400  | 600  | 800  | 1000  | V                         |
| Maximum average forward rectified output current at $T_A=40^\circ\text{C}$            | $I_{F(AV)}$     | 1.0          |      |      |      |      |      |       | A                         |
| Peak forward surge current single sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$       | 30           |      |      |      |      |      |       | A                         |
| Rating for fusing ( $t < 8.3\text{ms}$ )                                              | $I^2 t$         | 10           |      |      |      |      |      |       | $\text{A}^2\text{sec}$    |
| Typical thermal resistance per element (1)                                            | $R_{\theta JA}$ | 110          |      |      |      |      |      |       | $^\circ\text{C}/\text{W}$ |
| Typical junction capacitance per element (2)                                          | $C_j$           | 25.0         |      |      |      |      |      |       | pF                        |
| Operating junction and storage temperature range                                      | $T_J, T_{STG}$  | -55 to + 150 |      |      |      |      |      |       | $^\circ\text{C}$          |

#### Electrical Characteristics

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

| Parameter                                                                                                             | Symbol | MB05S     | MB1S | MB2S | MB4S | MB6S | MB8S | MB10S | Unit          |
|-----------------------------------------------------------------------------------------------------------------------|--------|-----------|------|------|------|------|------|-------|---------------|
| Maximum instantaneous forward voltage drop per leg at 0.5A                                                            | $V_F$  | 1.1       |      |      |      |      |      |       | V             |
| Maximum DC reverse current at rated $T_A=25^\circ\text{C}$<br>DC blocking voltage per element $T_A=125^\circ\text{C}$ | $I_R$  | 10<br>500 |      |      |      |      |      |       | $\mu\text{A}$ |

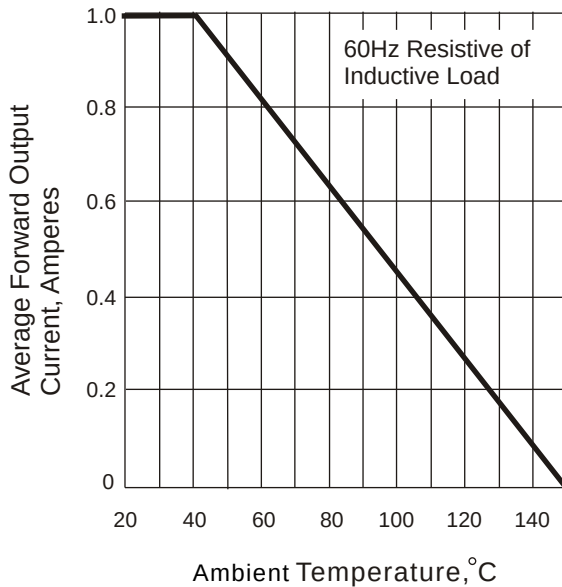
**Notes:** (1) Thermal resistance from Junction to Ambient on P.C. board mounting.

(2) Measured at 2.0MHz and applied reverse voltage of 4.0 volts.

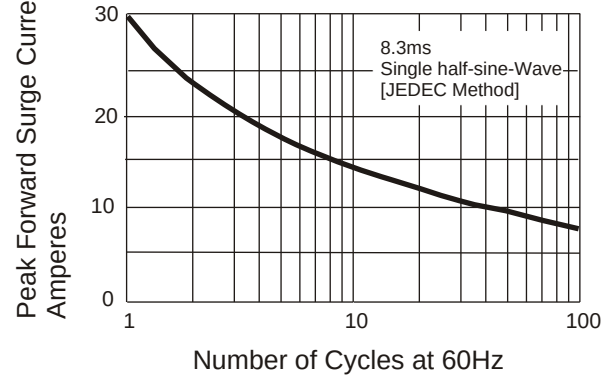
## Rating and Characteristic Curves ( $T_A=25^{\circ}\text{C}$ Unless otherwise noted )

### MB05S thru MB10S

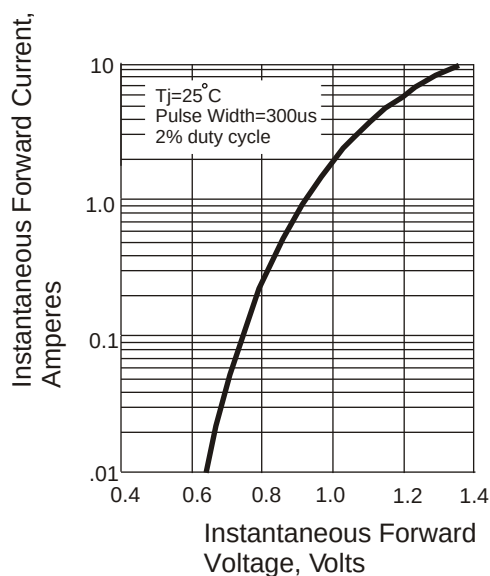
**Fig. 1 Derating Curve for Output Rectified Current**



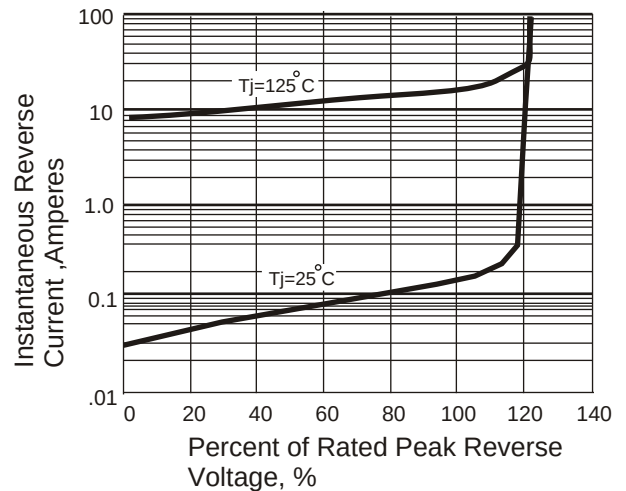
**Fig. 2 Maximum Non-repetitive Peak Forward Surge Current**



**Fig. 3 Typical Instantaneous Forward Characteristics**



**Fig. 4 Typical Revers Characteristics**



**Fig. 5 Typical Junction Capacitance**

