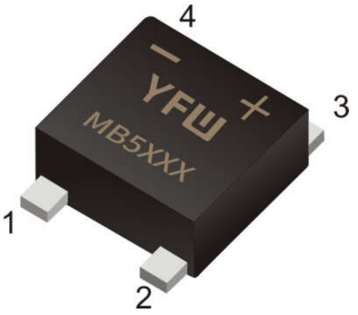
# 5A Surface Mount Glass Passivated Bridge Rectifier

**Reverse Voltage - 1000 V**

**Forward Current – 5A**



**1.Input pin(~)**
**2.Input pin(~)**
**3.Output Anode(+)**
**4.Output Cathode(-)**
**UMSB**

## Features

- High Surge Current Capability
- Designed for Surface Mount Application
- Glass Passivated Chip Junction
- Lead free in comply with EU RoHS 2011/65/EU directives

## Mechanical Data

- Case: UMSB
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 233.7mg / 0.00824oz

## Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20 %.

| Parameter | Symbols | MSB50M | Units |
|---|---|---|---|
| Maximum Repetitive Peak Reverse Voltage | $V_{RRM}$ | 1000 | V |
| Maximum RMS voltage | $V_{RMS}$ | 700 | V |
| Maximum DC Blocking Voltage | $V_{DC}$ | 1000 | V |
| Average Rectified Output Current | $I_O$ | 5.0 | A |
| Peak Forward Surge Current 8.3 ms Single Half Sine-Wave Superimposed on Rated Load(JEDEC method) | $I_{FSM}$ | 150 | A |
| $I^2$ t Rating for Fusing | $I^2t$ | 93.375 | $A^2S$ |
| Forward Voltage per element at 1.0A | $V_F$ | 0.83(typ.) | V |
| Forward Voltage per element at 5.0A | $V_F$ | 1.1 | V |
| Maximum DC Reverse Current @TA=25°C<br>at Rated DC Blocking Voltage @TA=125°C | $I_R$ | 5<br>100 | µA |
| Typical Junction Capacitance（Note1） | $C_j$ | 60 | pF |
| Typical Thermal Resistance（Note2） | $R_{\theta JA}$<br>$R_{\theta JC}$<br>$R_{\theta JL}$ | 60<br>10<br>12 | °C/W |
| Operating and Storage Temperature Range | Tj, Tstg | -55 ~ +150 | °C |

（1）Measured at 1 MHz and applied reverse voltage of 4 V D.C

（2）Mounted on glass epoxy PC board with 4×1.5"×1.5" （3.81×3.81 cm） copper pad.

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

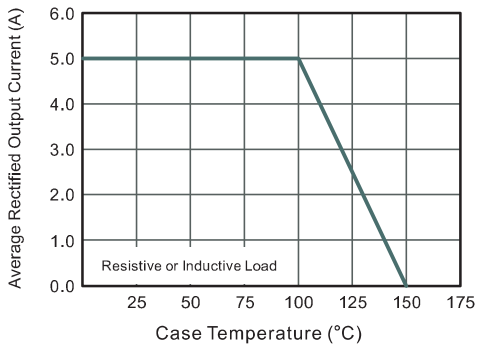


**Fig.2 Typical Reverse Characteristics**

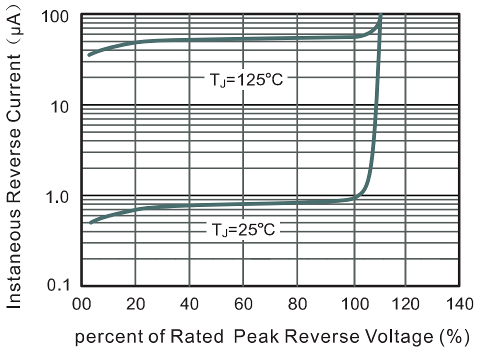


**Fig.3 Typical Instaneous Forward Characteristics**

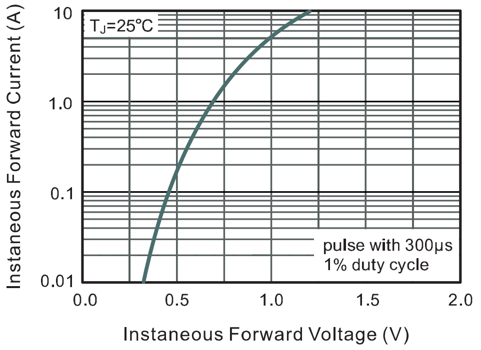


**Fig.4 Typical Junction Capacitance**

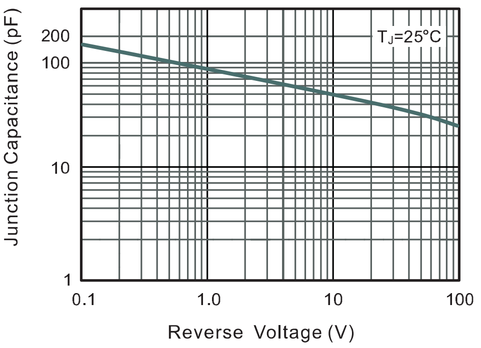


**Fig.5 Maximum Non-Repetitive Peak Forward Surage Current**

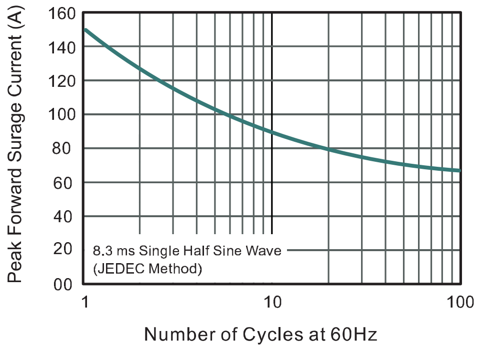
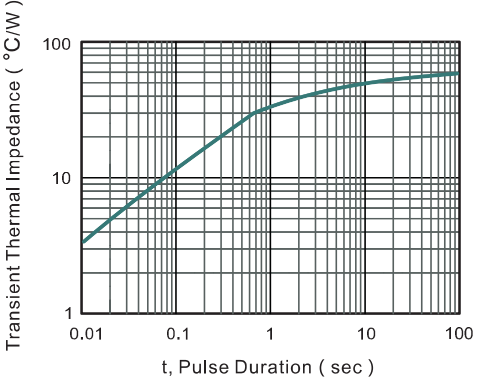
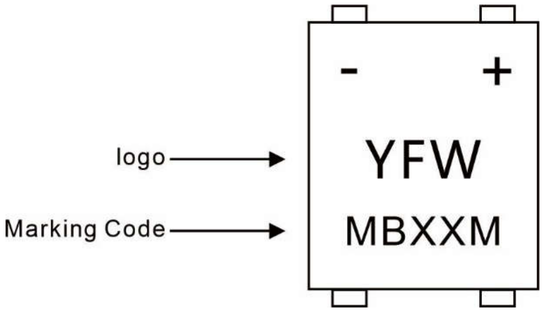


**Fig.6- Typical Transient Thermal Impedance**



## Marking Diagram

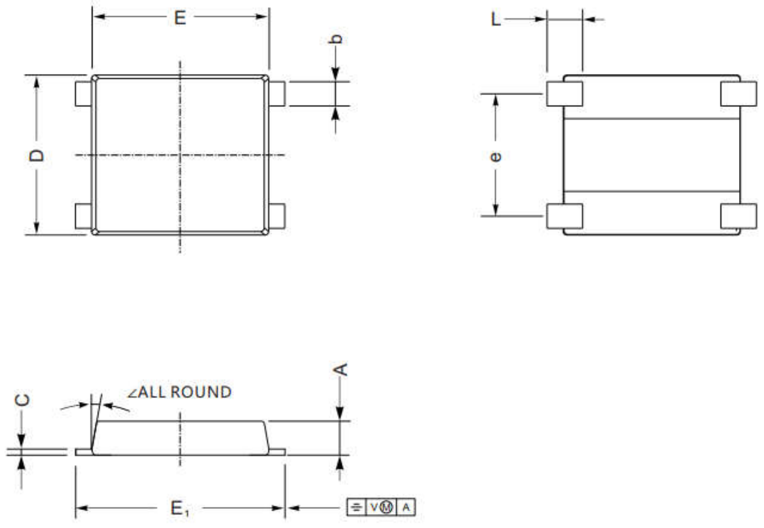


## Ordering information

| Package | Packing Description | Packing Quantity |
|---|---|---|
| **UMSB** | Tape/Reel,13”reel | 3000PCS/Reel 30000PCS/Carton |

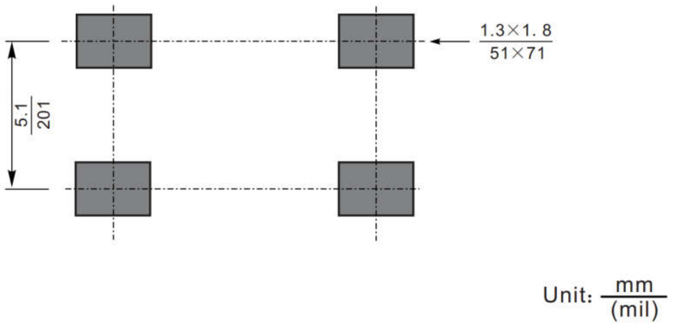
## Package Dimensions

**UMSB**



| Dim. | Millimeter(mm) | | (mil) | |
|---|---|---|---|---|
| | Min. | Max. | Min. | Max. |
| A | 1.3 | 1.5 | 51 | 59 |
| C | 0.17 | 0.29 | 7 | 12 |
| D | 6.2 | 7.0 | 244 | 276 |
| E | 7.1 | 7.6 | 280 | 299 |
| $E_1$ | 8.4 | 8.9 | 331 | 350 |
| L | 1.0 | 1.6 | 31.5 | 55 |
| e | 4.9 | 5.3 | 193 | 209 |
| b | 0.95 | 1.15 | 37 | 45 |
| ∠ | 10° | | | |

## The recommended mounting pad size



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