



# MSB30B THRU MSB30M

## 3A SURFACE MOUNT GLASS PASSIVATED BRIDGE RECTIFIER

### FEATURES:

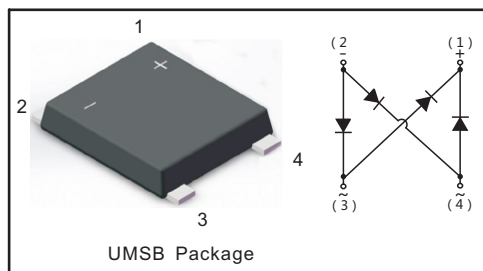
- Glass Passivated Chip Junction
- Reverse Voltage - 100 to 1000 V
- Forward Current - 3.0 A
- High Surge Current Capability
- Designed for Surface Mount Application

### MECHANICAL DATA

- Case: UMSB
- Terminals: Solderable per MIL-STD-750, Method 2026

### PINNING

| PIN | DESCRIPTION          |
|-----|----------------------|
| 1   | Output Anode ( + )   |
| 2   | Output Cathode ( - ) |
| 3   | Input Pin ( ~ )      |
| 4   | Input Pin ( ~ )      |



### Maximum Ratings and Electrical characteristics

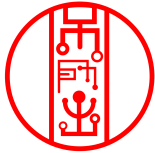
Ratings at 25 °C ambient temperature unless otherwise specified.

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

| Parameter                                                                                                                               | Symbols        | MSB30B     | MSB30D | MSB30G | MSB30J | MSB30K | MSB30M | Units              |
|-----------------------------------------------------------------------------------------------------------------------------------------|----------------|------------|--------|--------|--------|--------|--------|--------------------|
| Maximum Repetitive Peak Reverse Voltage                                                                                                 | $V_{RRM}$      | 100        | 200    | 400    | 600    | 800    | 1000   | V                  |
| Maximum RMS voltage                                                                                                                     | $V_{RMS}$      | 70         | 140    | 280    | 420    | 560    | 700    | V                  |
| Maximum DC Blocking Voltage                                                                                                             | $V_{DC}$       | 100        | 200    | 400    | 600    | 800    | 1000   | V                  |
| Average Rectified Output Current                                                                                                        | $I_O$          | 3.0        |        |        |        |        |        | A                  |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)                                       | $I_{FSM}$      | 80         |        |        |        |        |        | A                  |
| Maximum Forward Voltage at 3.0 A                                                                                                        | $V_F$          | 1.1        |        |        |        |        |        | V                  |
| Maximum DC Reverse Current<br>at Rated DC Blocking Voltage<br>@ $T_A=25\text{ }^{\circ}\text{C}$<br>@ $T_A=125\text{ }^{\circ}\text{C}$ | $I_R$          | 5<br>100   |        |        |        |        |        | $\mu\text{A}$      |
| Typical Junction Capacitance ( Note1 )                                                                                                  | $C_j$          | 40         |        |        |        |        |        | pF                 |
| Operating and Storage Temperature Range                                                                                                 | $T_j, T_{stg}$ | -55 ~ +150 |        |        |        |        |        | $^{\circ}\text{C}$ |

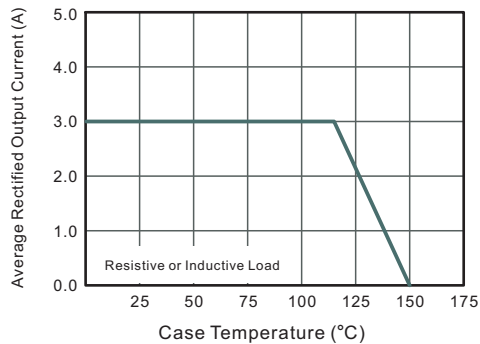
Note: 1. Measured at 1MHz and applied reverse voltage of 4 V D.C.

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

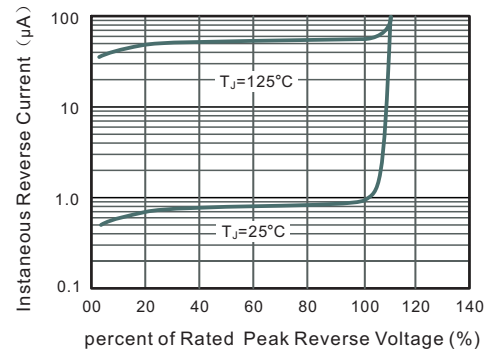


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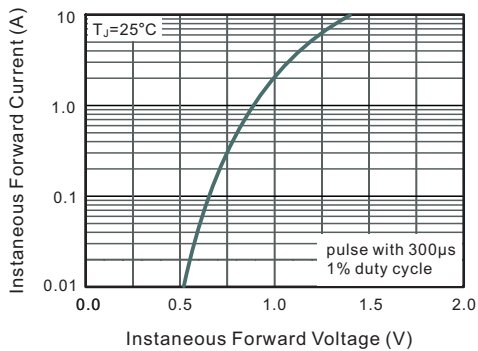
**Fig.1 Average Rectified Output Current Derating Curve**



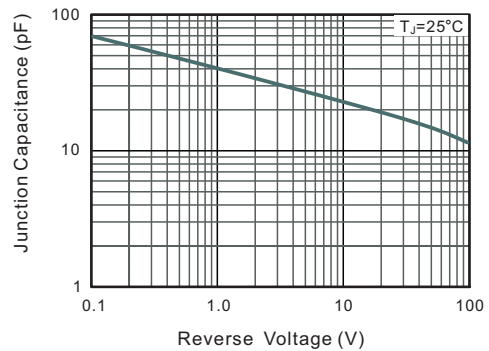
**Fig.2 Typical Reverse Characteristics**



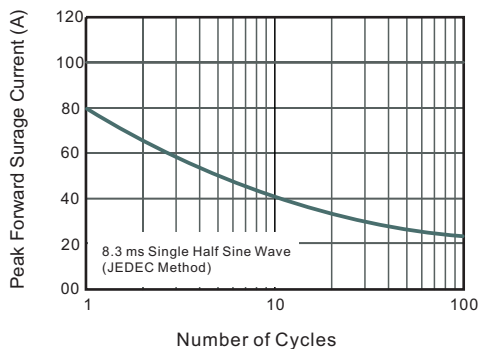
**Fig.3 Typical Instantaneous Forward Characteristics**

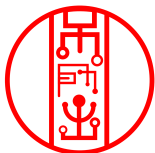


**Fig.4 Typical Junction Capacitance**



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



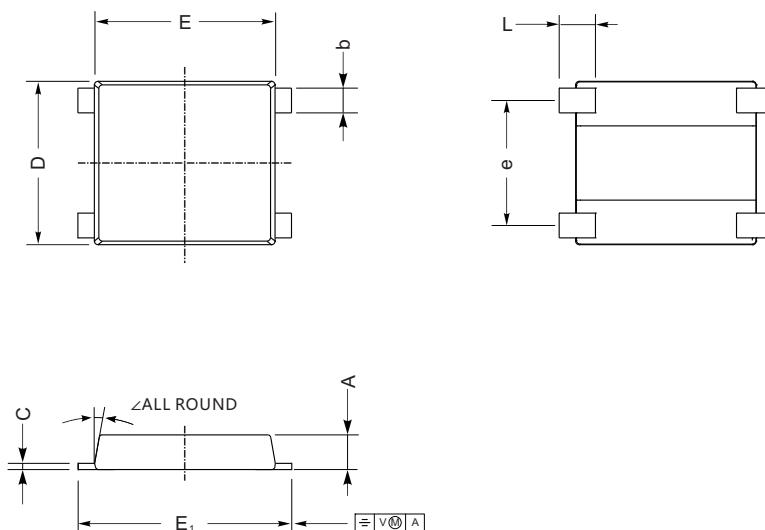


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## PACKAGE OUTLINE

Plastic surface mounted package; 4 leads

UMSB



UMSB mechanical data

| UNIT |     | A   | C    | D   | E   | E <sub>1</sub> | L    | e   | b    | ∠   |
|------|-----|-----|------|-----|-----|----------------|------|-----|------|-----|
| mm   | max | 1.5 | 0.29 | 7.0 | 7.6 | 8.9            | 1.6  | 5.3 | 1.15 | 10° |
|      | min | 1.3 | 0.17 | 6.2 | 7.1 | 8.4            | 1.0  | 4.9 | 0.95 |     |
| mil  | max | 59  | 12   | 276 | 299 | 350            | 55   | 209 | 45   |     |
|      | min | 51  | 7    | 244 | 280 | 331            | 31.5 | 193 | 37   |     |

## Marking

| Type number | Marking code |
|-------------|--------------|
| MSB30B      | MB30B        |
| MSB30D      | MB30D        |
| MSB30G      | MB30G        |
| MSB30J      | MB30J        |
| MSB30K      | MB30K        |
| MSB30M      | MB30M        |