

**Surface Mount Superfast Recovery Bridge Rectifier**

**Reverse Voltage – 50 to 600 V**

**Forward Current – 1 A**

**FEATURES**

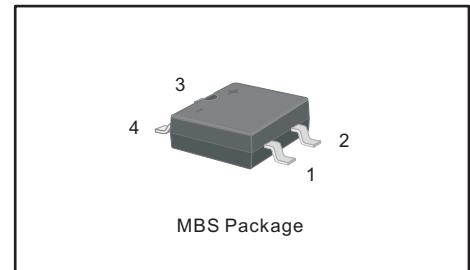
- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Superfast reverse recovery time
- Lead free in comply with EU RoHS 2011/65/EU directives

**MECHANICAL DATA**

- Case: MBS
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 100mg / 0.0035oz

**PINNING**

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



**Absolute Maximum Ratings and Characteristics**

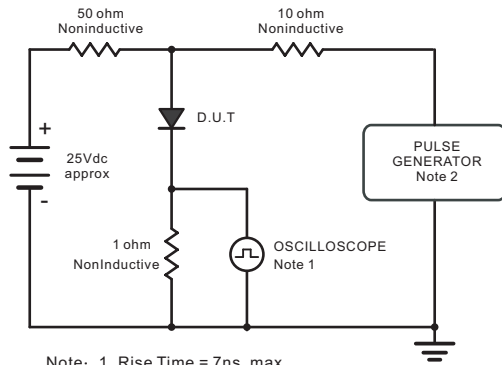
Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

| Parameter  | Symbols         | EMB1AS     | EMB1BS | EMB1CS | EMB1DS | EMB1ES | EMB1GS | EMB1JS | Units              |
|--|-----------------|------------|--------|--------|--------|--------|--------|--------|--------------------|
| Maximum Repetitive Peak Reverse Voltage  | $V_{RRM}$       | 50         | 100    | 150    | 200    | 300    | 400    | 600    | V                  |
| Maximum RMS voltage  | $V_{RMS}$       | 35         | 70     | 105    | 140    | 210    | 280    | 420    | V                  |
| Maximum DC Blocking Voltage  | $V_{DC}$        | 50         | 100    | 150    | 200    | 300    | 400    | 600    | V                  |
| Maximum Average Forward Rectified Current  | $I_{F(AV)}$     | 1          |        |        |        |        |        |        | A                  |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load   | $I_{FSM}$       | 30         |        |        |        |        |        |        | A                  |
| Maximum Forward Voltage at 1 A   | $V_F$           | 1          |        |        |        | 1.25   |        | 1.68   | V                  |
| Maximum DC Reverse Current 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 (Note: 1)   | $C_j$           | 15         |        |        |        |        |        |        | pF                 |
| Maximum Reverse Recovery Time (Note: 2)  | $t_{rr}$        | 35         |        |        |        |        |        |        | ns                 |
| Typical Thermal Resistance (Note: 3)   | $R_{\theta JA}$ | 80         |        |        |        |        |        |        | $^\circ\text{C/W}$ |
| 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. Measured with  $I_f = 0.5\text{ A}$ ,  $I_R = 1\text{ A}$ ,  $I_{rr} = 0.25\text{ A}$ .  
 3. Mounted on glass epoxy PC board with  $4 \times 1.5'' \times 1.5''$  ( 3.81×3.81 cm ) copper pad.



Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram



Note: 1. Rise Time = 7ns, max.  
Input Impedance = 1megohm, 22pF.  
2. Rises Time = 10ns, max.  
Source Impedance = 50 ohms.

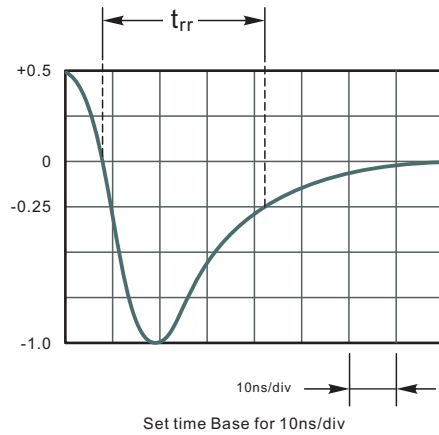


Fig.2 Maximum Average Forward Current Rating

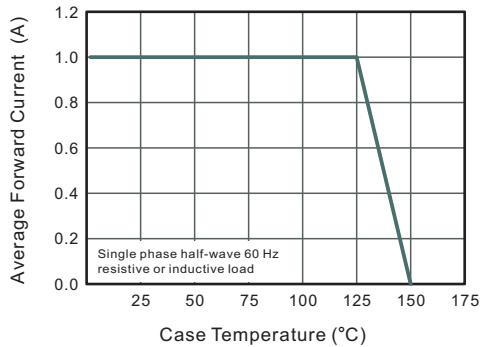


Fig.3 Typical Reverse Characteristics

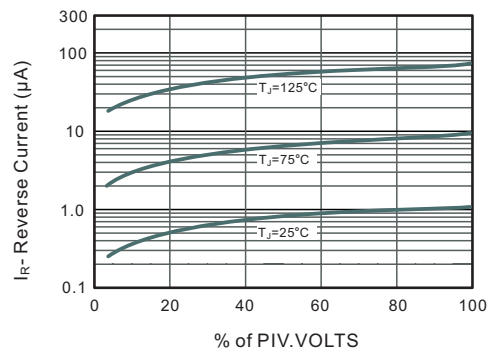


Fig.4 Typical Forward Characteristics

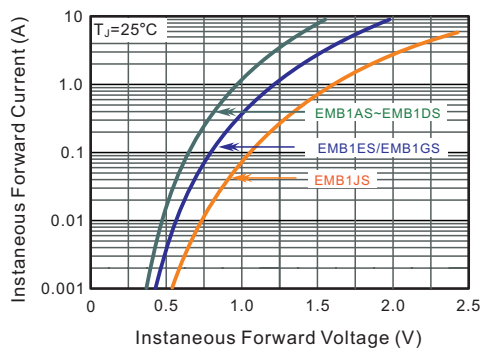


Fig.5 Typical Junction Capacitance

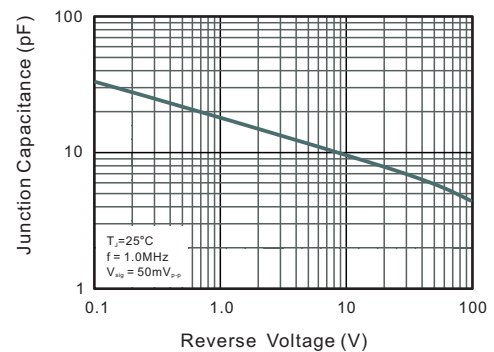
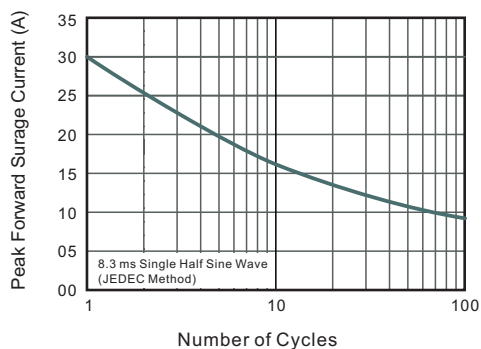


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current

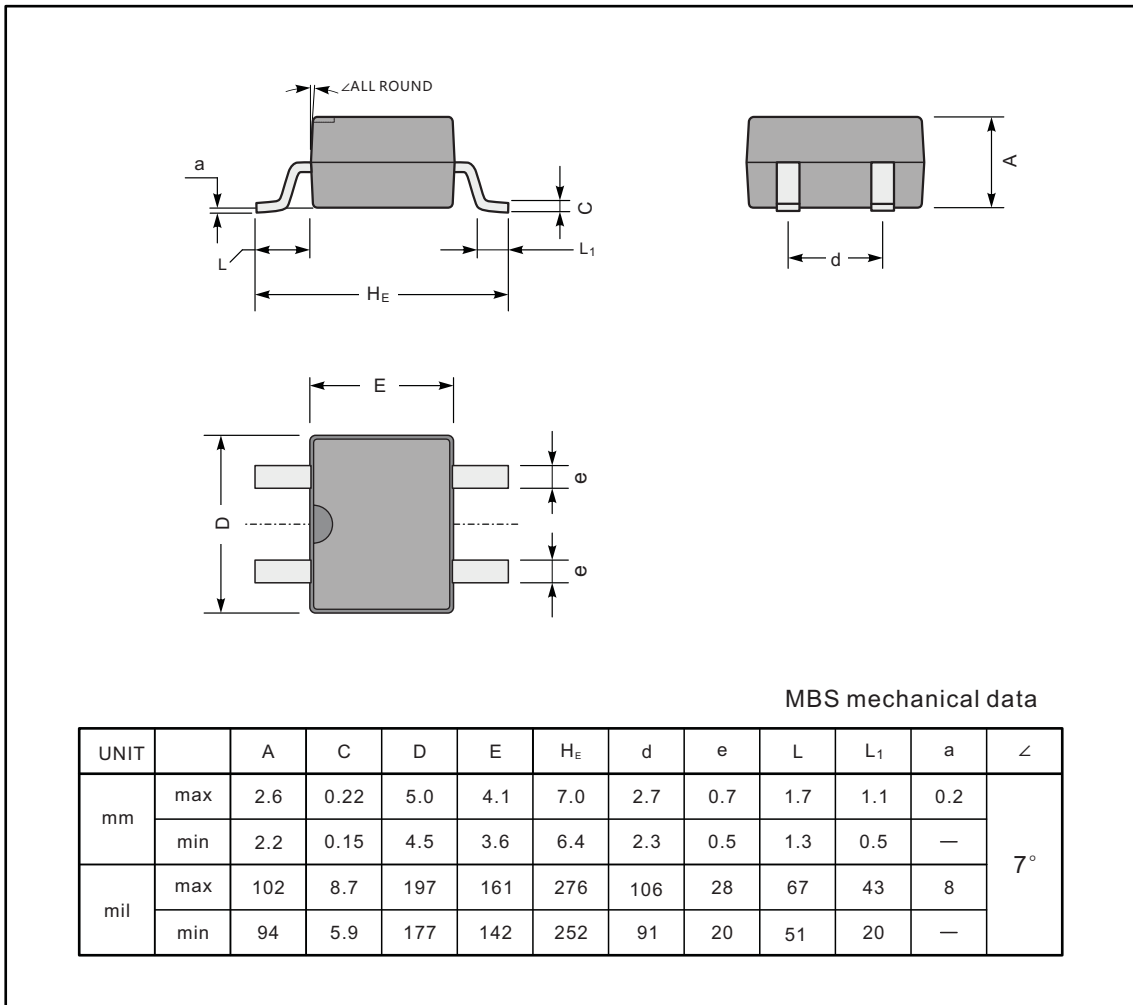




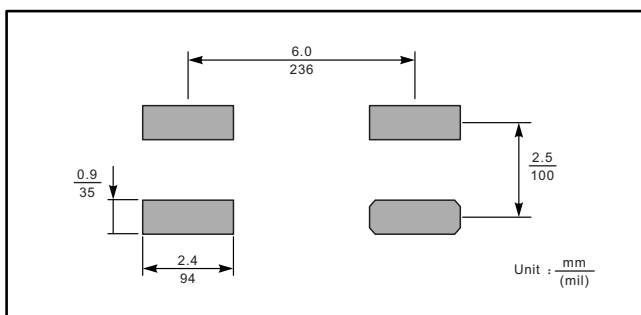
PACKAGE OUTLINE

Plastic surface mounted package; 4 leads

MBS



The recommended mounting pad size



Marking

| Type number | Marking code |
|-------------|--------------|
| EMB1AS      | EMB1AS       |
| EMB1BS      | EMB1BS       |
| EMB1CS      | EMB1CS       |
| EMB1DS      | EMB1DS       |
| EMB1ES      | EMB1ES       |
| EMB1GS      | EMB1GS       |
| EMB1JS      | EMB1JS       |