

## Surface Mount Superfast Recovery Bridge Rectifier

Reverse Voltage – 50 to 600 V

Forward Current – 1 A

### FEATURES

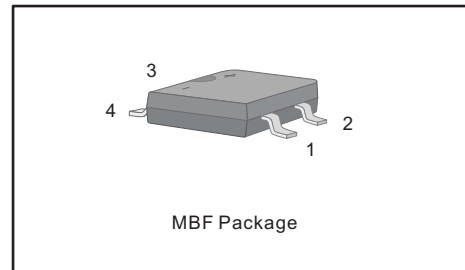
- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Superfast reverse recovery time
- Lead free in comply with EU RoHS 2011/65/EU directives

### MECHANICAL DATA

- Case: SMAF
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 75mg / 0.0026oz

### 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	EMB1AF	EMB1BF	EMB1CF	EMB1DF	EMB1EF	EMB1GF	EMB1JF	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 at $T_c = 125\text{ }^\circ\text{C}$	$I_{F(AV)}$	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 $T_a = 25\text{ }^\circ\text{C}$ $T_a = 125\text{ }^\circ\text{C}$	$I_R$	5 100							$\mu\text{A}$
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

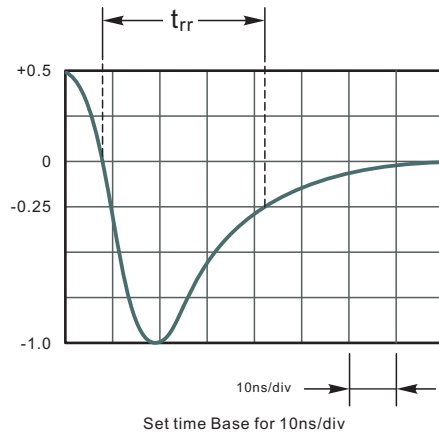
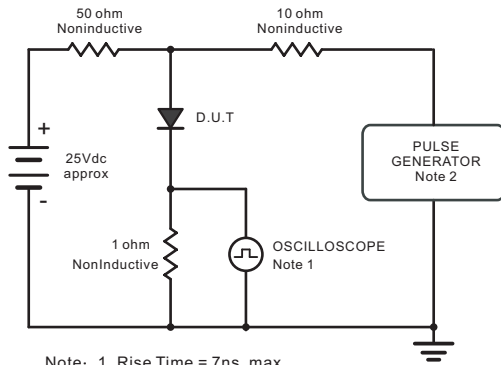


Fig.2 Maximum Average Forward Current Rating

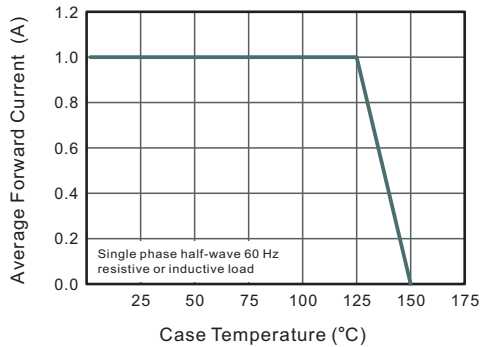


Fig.3 Typical Reverse Characteristics

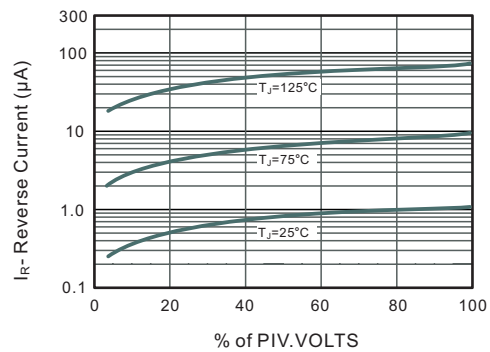


Fig.4 Typical Forward Characteristics

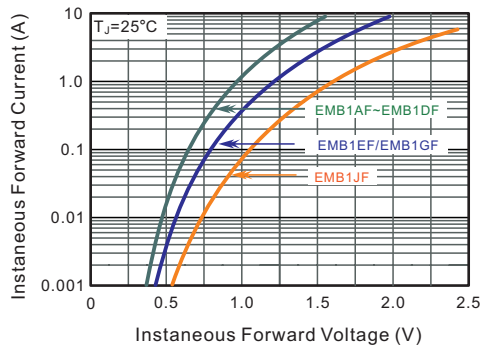


Fig.5 Typical Junction Capacitance

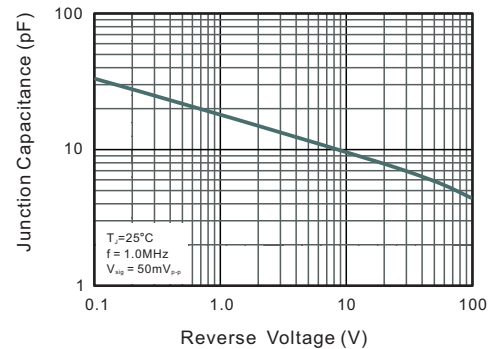
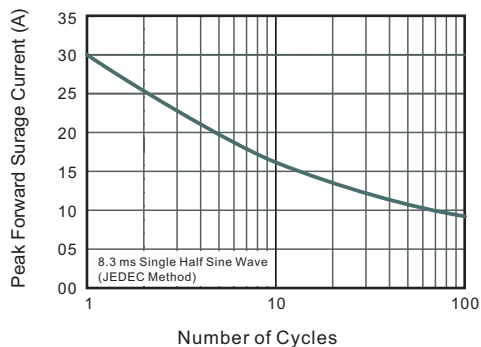


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current

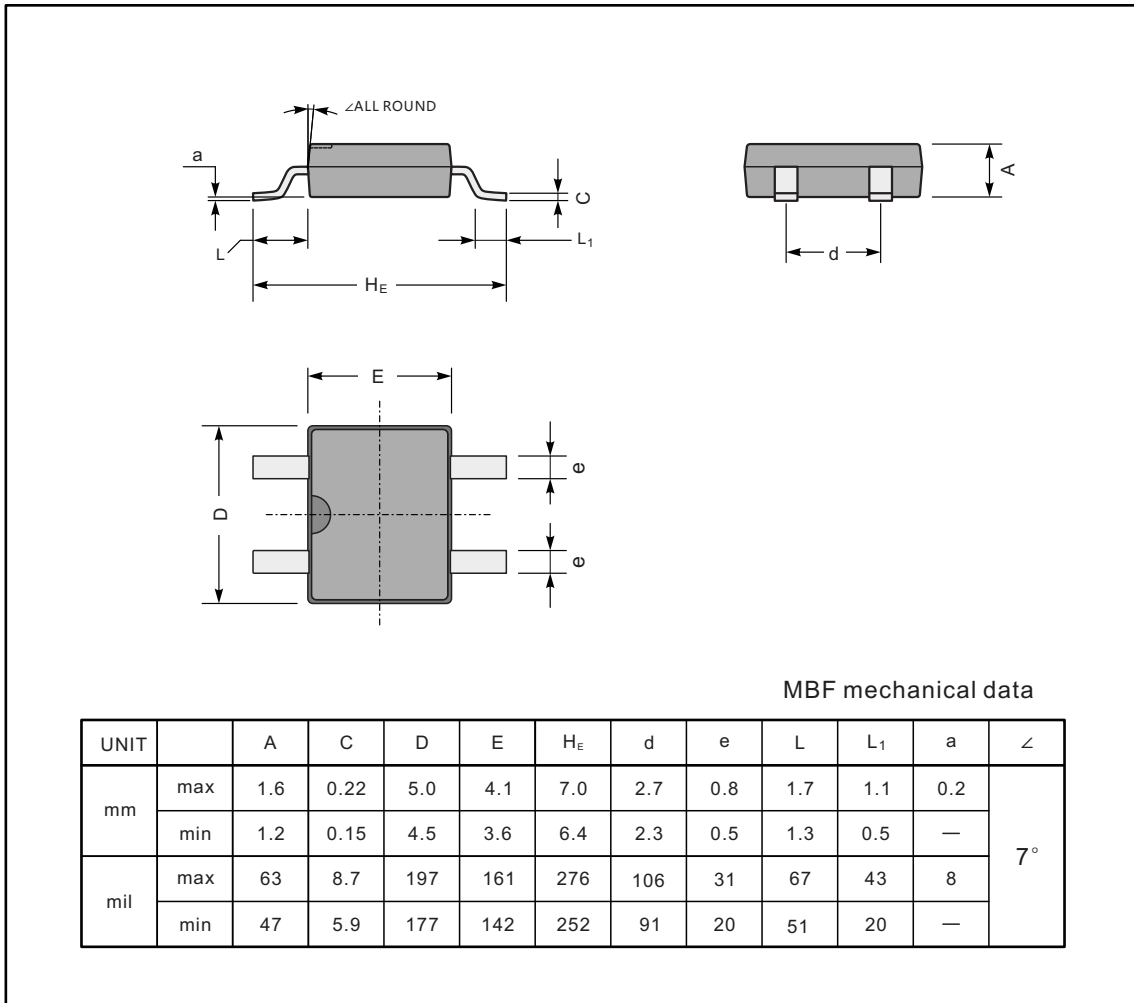




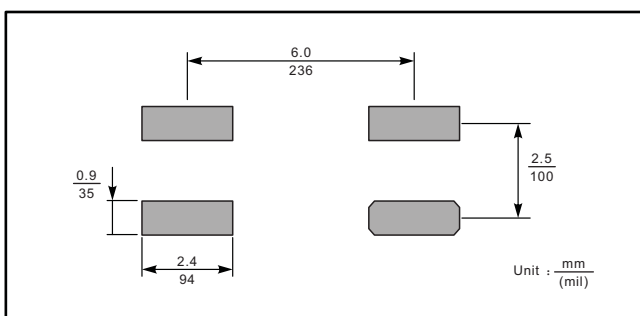
**PACKAGE OUTLINE**

Plastic surface mounted package; 4 leads

**MBF**



**The recommended mounting pad size**



**Marking**

Type number	Marking code
EMB1AF	EMB1AF
EMB1BF	EMB1BF
EMB1CF	EMB1CF
EMB1DF	EMB1DF
EMB1EF	EMB1EF
EMB1GF	EMB1GF
EMB1JF	EMB1JF