

## / Descriptions

3.0A

UMSB

3.0A Surface Mount Glass Passivated Bridge Rectifier,UMSB thin package.

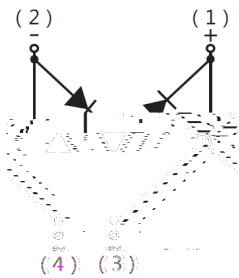
## / Features

Glass Passivated Chip Junction, Fast reverse recovery time, Reverse Voltage :100 to 1000V, Forward Current: 3.0A, Designed for Surface Mount Application,HF product.

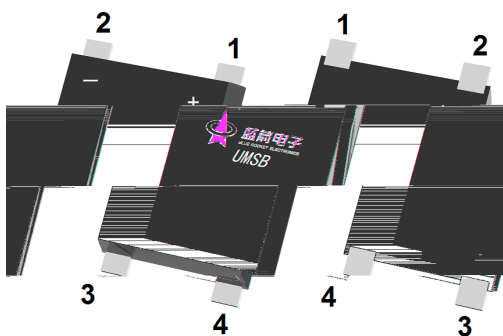
## / Applications

General purpose.

## / Equivalent Circuit



## / Pinning



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

## / Marking

See Marking Instructions.

## / Absolute Maximum Ratings(Ta=25 )

| Parameter                                                                                         | Symbol                                                   | Rating         |         |         |         |         |         | Unit |
|---------------------------------------------------------------------------------------------------|----------------------------------------------------------|----------------|---------|---------|---------|---------|---------|------|
|                                                                                                   |                                                          | FMSB30B        | FMSB30D | FMSB30G | FMSB30J | FMSB30K | FMSB30M |      |
| Maximum Repetitive Peak Reverse Voltage                                                           | V <sub>RRM</sub>                                         | 100            | 200     | 400     | 600     | 800     | 1000    | V    |
| Maximum RMS voltage                                                                               | V <sub>RMS</sub>                                         | 70             | 140     | 280     | 420     | 560     | 700     | V    |
| Maximum DC Blocking Voltage                                                                       | V <sub>DC</sub>                                          | 100            | 200     | 400     | 600     | 800     | 1000    | V    |
| Average Rectified Output Currentat Tc = 115 °C                                                    | I <sub>o</sub>                                           | 3.0            |         |         |         |         |         | A    |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) | I <sub>FSM</sub>                                         | 90             |         |         |         |         |         | A    |
| Typical Junction Capacitance Note1                                                                | C <sub>i</sub>                                           | 40             |         |         |         |         |         | pF   |
| Typical Thermal Resistance Note2                                                                  | R <sub>θJA</sub><br>R <sub>θJC</sub><br>R <sub>θJL</sub> | 65<br>15<br>30 |         |         |         |         |         | C/W  |
| Maximum Reverse Recovery Time Note3                                                               | t <sub>rr</sub>                                          | 150            |         |         | 250     | 500     |         | ns   |
| Operating and Storage Temperature Range                                                           | T <sub>j</sub> , T <sub>stg</sub>                        | -55~+150       |         |         |         |         |         |      |

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 3.81cm copper pad.
3. Measured with  $I_F = 0.5\text{ A}$ ,  $I_R = 1\text{ A}$ ,  $I_{rr} = 0.25\text{ A}$ .

## / Electrical Characteristics(Ta=25 )

| Parameter                                                 | Symbol         | Test Conditions      | Rating  |         |         |         |         |         | Unit |
|-----------------------------------------------------------|----------------|----------------------|---------|---------|---------|---------|---------|---------|------|
|                                                           |                |                      | FMSB30B | FMSB30D | FMSB30G | FMSB30J | FMSB30K | FMSB30M |      |
| Forward Voltage per element                               | V <sub>F</sub> | I <sub>F</sub> =3.0A | 1.3     |         |         |         |         |         | V    |
| Maximum DC Reverse Current at Maximum DC Blocking Voltage | I <sub>R</sub> | T <sub>a</sub> =25   | 5.0     |         |         |         |         |         | μA   |
|                                                           |                | T <sub>a</sub> =125  | 200     |         |         |         |         |         |      |

## / Electrical Characteristic Curve

Fig.1 Average Rectified Output Current Derating Curve

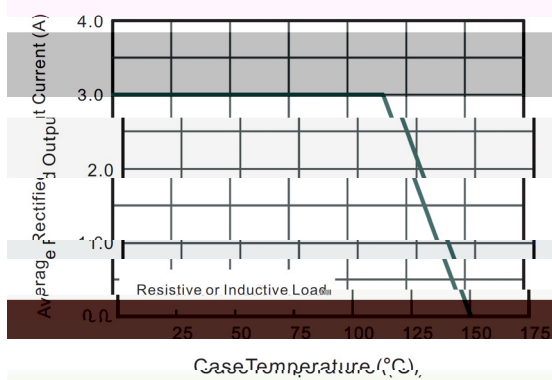


Fig.2 Typical Reverse Characteristics

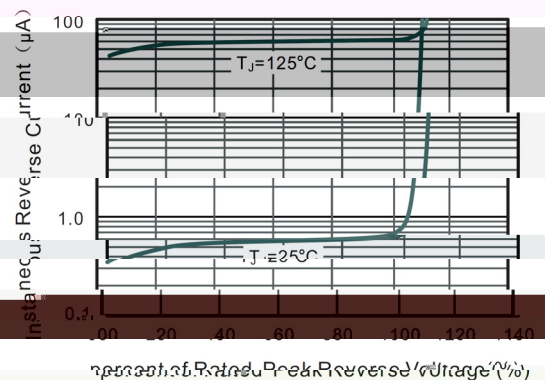


Fig.3 Typical Instantaneous Forward Characteristics

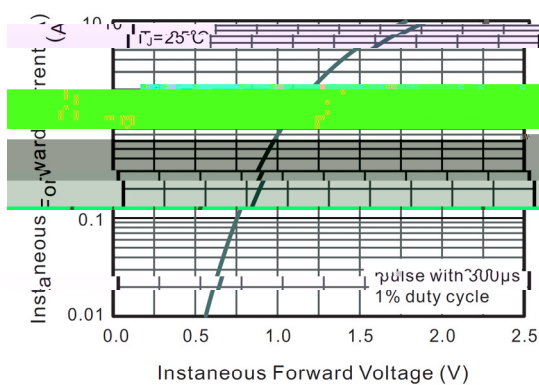


Fig.4 Typical Junction Capacitance

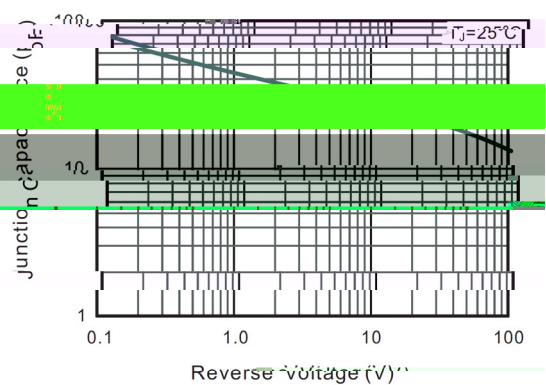


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

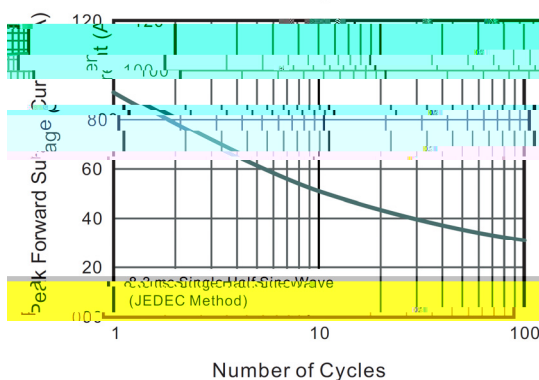
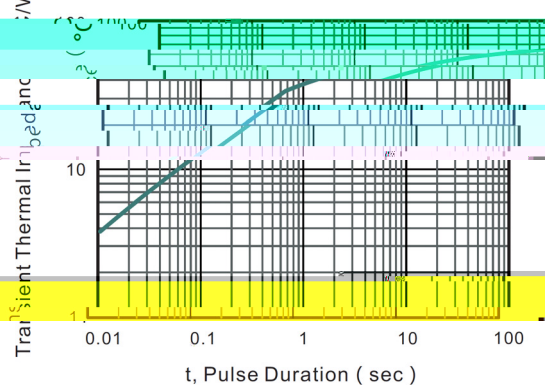


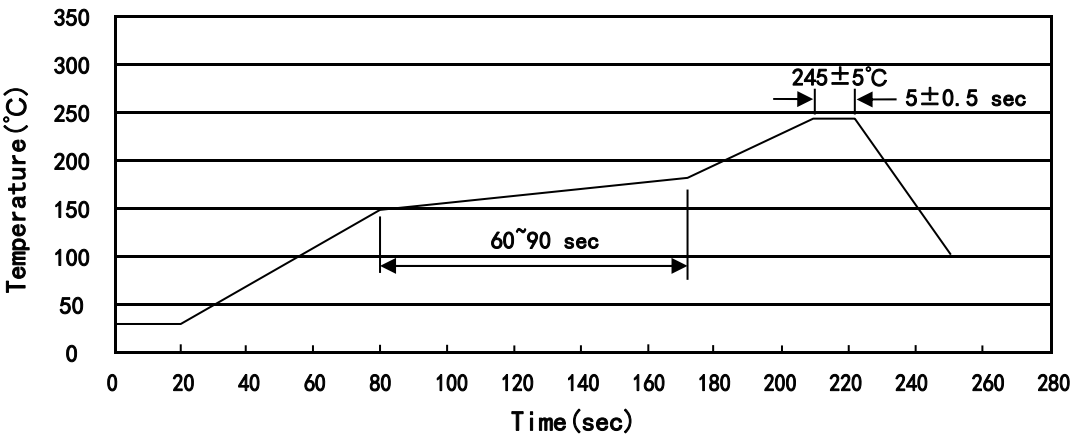
Fig.6 Typical Transient Thermal Impedance







( ) /



Note:

- 1

150 180

60 90sec;

1.Preheating:150~180 , Time:60~90sec.
- 2

245 5

5 0.5sec;

2.Peak Temp.:245 5 , Duration:5 0.5sec.
- 3

2 10 /sec.

3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

260 5                      10 1 sec.                      Temp.:260±5                      Time:10±1 sec

/ Packaging SPEC.

/ REEL

| Package Type | Units           |                      |                      |                            |                      | Dimension (unit mm <sup>3</sup> ) |            |             |
|--------------|-----------------|----------------------|----------------------|----------------------------|----------------------|-----------------------------------|------------|-------------|
|              | Units/Reel<br>/ | Reels/Inner Box<br>/ | Units/Inner Box<br>/ | Inner Boxes/Outer Box<br>/ | Units/Outer Box<br>/ | Reel                              | Inner Box  | Outer Box   |
| UMSB         | 3,000           | 2                    | 6,000                | 6                          | 36,000               | 13"×16                            | 337×337×49 | 380×335×366 |

/ Notices