

## SINGLE PHASE 3.0AMP FASR RECOVERY BRIDGE RECTIFIERS

**Reverse Voltage - 50 to 1000 V**

**Forward Current - 3A**

### FEATURES

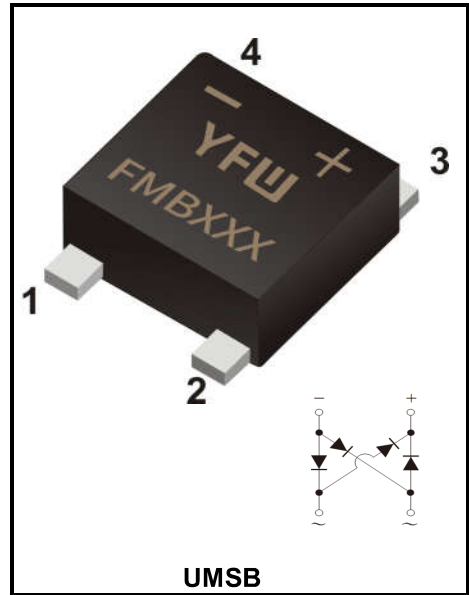
- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ Idea for printed circuit board
- ◆ Glass passivated Junction chip
- ◆ Low reverse leakage
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed 250°C/10 seconds at terminals

### MECHANICAL DATA

- ◆ Case : Molded plastic body
- ◆ Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- ◆ Polarity : Polarity symbol marking on body
- ◆ Mounting Position : Any
- ◆ Weight : 0.0034 ounce, 0.098 grams

### Maximum Ratings And Electrical Characteristics

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



| Parameter  | Symbols        | FMSB 30AD  | FMSB 30BD | FMSB 30DD | FMSB 30GD | FMSB 30JD | FMSB 30KD | FMSB 30MD | Units                |
|--|----------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|----------------------|
| Maximum Repetitive Peak Reverse Voltage  | $V_{RRM}$      | 50         | 100       | 200       | 400       | 600       | 800       | 1000      | V                    |
| Maximum RMS voltage  | $V_{RMS}$      | 35         | 70        | 140       | 280       | 420       | 560       | 700       | V                    |
| Maximum DC Blocking Voltage  | $V_{DC}$       | 50         | 100       | 200       | 400       | 600       | 800       | 1000      | V                    |
| Maximum average forward rectified current at $T_L=100^\circ\text{C}$ On glass-epoxy P.C.B (Note 1)               | $I_{(AV)}$     | 3.0        |           |           |           |           |           |           | A                    |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load                               | $I_{FSM}$      | 120        |           |           |           |           |           |           | A                    |
| Rating for fusing ( $t=8.3\text{ms}$ , $T_a=25^\circ\text{C}$ )  | $I^2t$         | 59.76      |           |           |           |           |           |           | $\text{A}^2\text{s}$ |
| Maximum instantaneous forward voltage at 3.0A  | $V_F$          | 1.30       |           |           |           |           |           |           | V                    |
| Maximum DC Reverse Current at Rated DC Blocking Voltage<br>@ $T_A=25^\circ\text{C}$<br>@ $T_A=125^\circ\text{C}$ | $I_R$          | 5.0<br>200 |           |           |           |           |           |           | $\mu\text{A}$        |
| Maximum reverse recovery time (Note 2)   | $T_{rr}$       | 150        |           |           |           | 250       | 500       |           | ns                   |
| Typical Junction Capacitance (Note3)   | $C_j$          | 23.0       |           |           |           |           |           |           | pF                   |
| Typical Thermal Resistance   | $R_{qJA}$      | 55.0       |           |           |           |           |           |           | $^\circ\text{C/W}$   |
| Operating junction and storage temperature range   | $T_j, T_{STG}$ | -55 ~ +150 |           |           |           |           |           |           | $^\circ\text{C}$     |

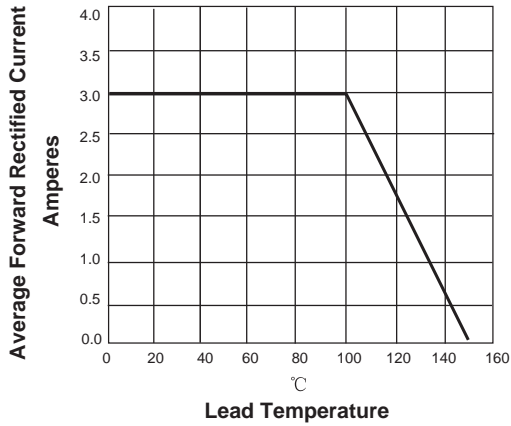
Note: 1. Mounted on glass epoxy PC board with 1.3\*1.3mm solder pad

2. Reverse Recovery Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$

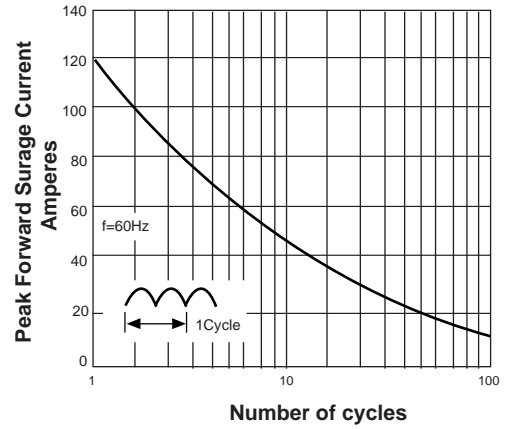
3. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

**Ratings And Characteristic Curves**

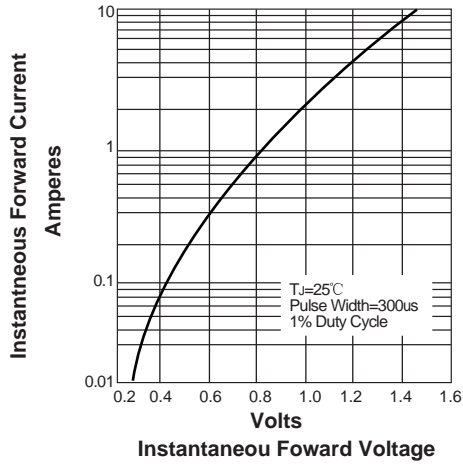
**FIG. 1- DERATING CURVE OUTPUT RECTIFIED CURRENT**



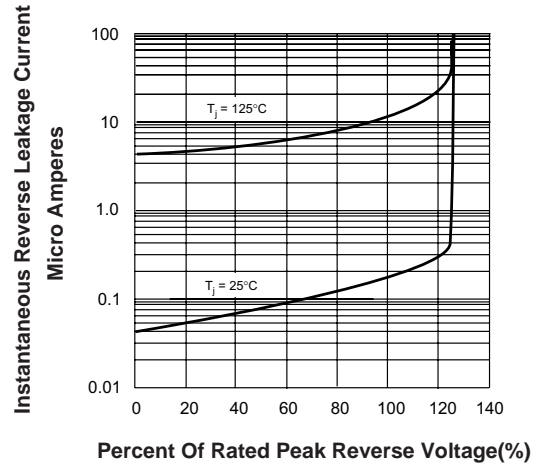
**FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG**



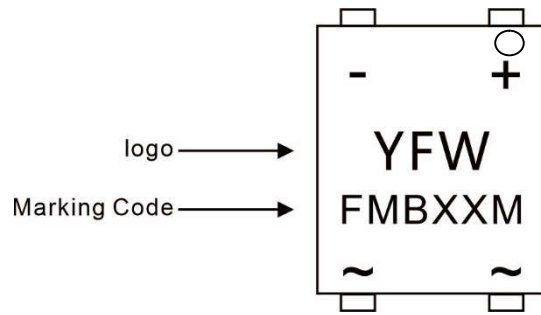
**FIG. 3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS**



**FIG. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS**



Marking Diagram



Ordering information

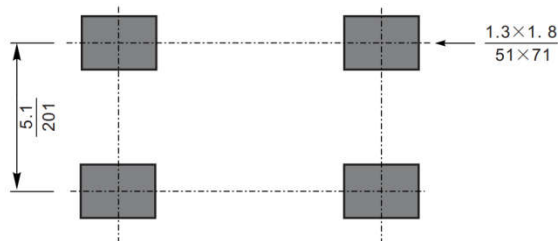
| Package | Packing Description | Packing Quantity             |
|---------|---------------------|------------------------------|
| UMSB    | Tape/Reel, 13" reel | 3000PCS/Reel 30000PCS/Carton |

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 <sub>1</sub> | 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



Unit:  $\frac{\text{mm}}{\text{mil}}$

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