

SINGLE PHASE 3.0AMP FASR RECOVERY BRIDGE RECTIFIERS

Reverse Voltage - 50 to 1000 V

Forward Current - 3A

FEATURES

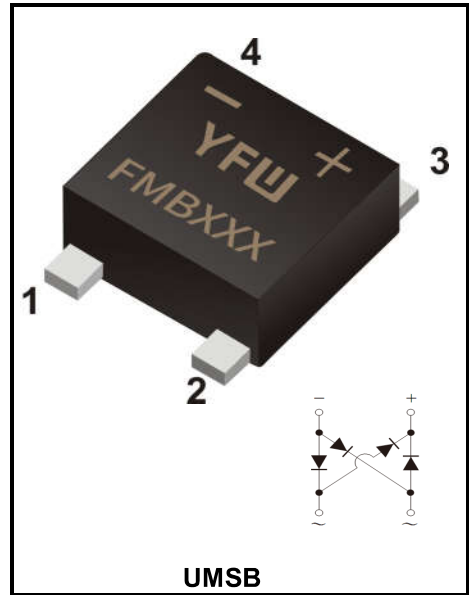
- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ Idea for printed circuit board
- ◆ Glass passivated Junction chip
- ◆ Low reverse leakage
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed 250°C/10 seconds at terminals

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 | | | | | | | A^2s |
| Maximum instantaneous forward voltage at 3.0A | V_F | 1.30 | | | | | | | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage @ $T_A=25^\circ\text{C}$ @ $T_A=125^\circ\text{C}$ | I_R | 5.0 200 | | | | | | | μA |
| 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

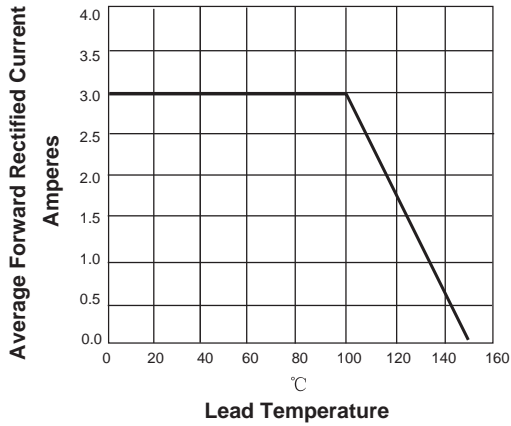


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

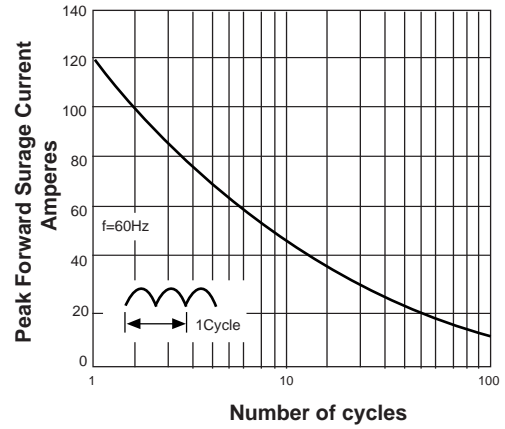


FIG. 3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

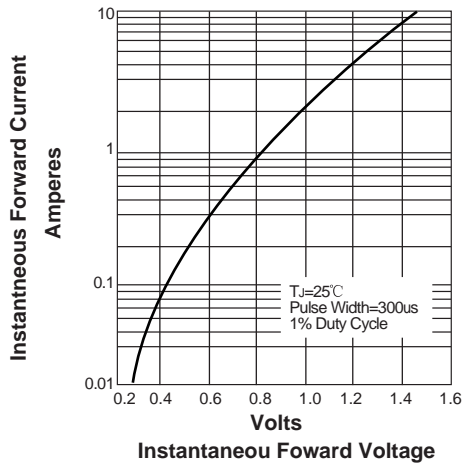
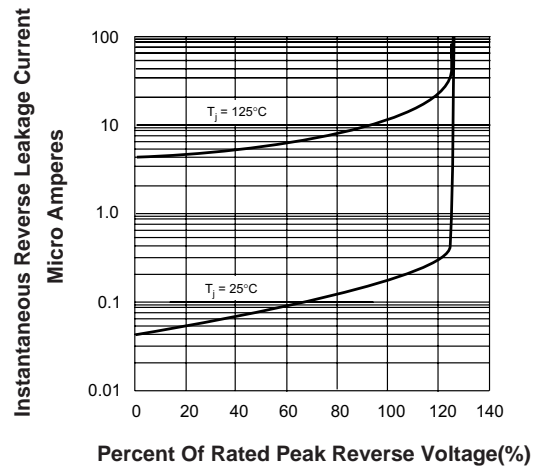
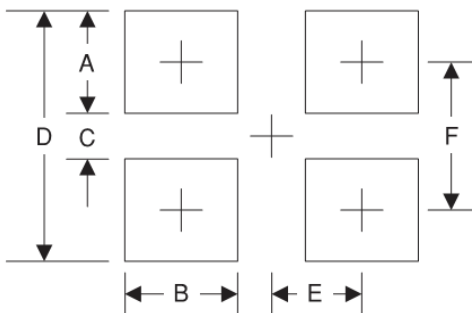


FIG. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS



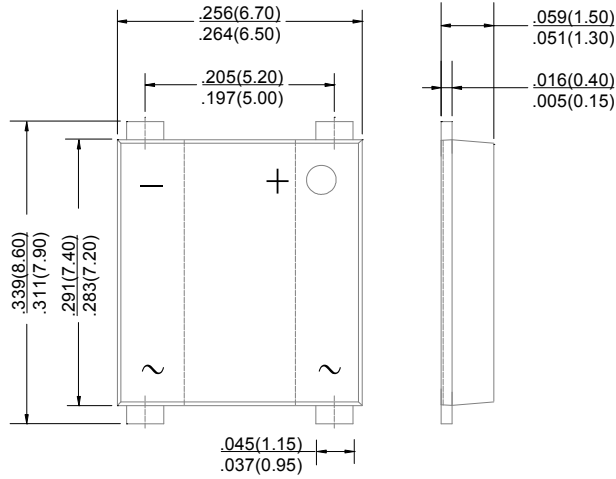
Suggested Pad Layout



| Symbol | Unit (mm) | Unit (inch) |
|--------|-----------|-------------|
| A | 1.8 | 0.071 |
| B | 2.0 | 0.078 |
| C | 5.50 | 0.216 |
| D | 9.15 | 0.360 |
| E | 2.6 | 0.102 |
| F | 7.35 | 0.289 |

Package Outline

UMSB



Summary of Packing Options

| Package | Packing Description | Packing Quantity | Industry Standard |
|---------|---------------------|------------------|-------------------|
| UMSB | Tape/Reel, 13" reel | 3000 | EIA-481-1 |

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