

**Single Phase 0.3Amp Glass passivated Bridge Rectifiers**

**UMB**

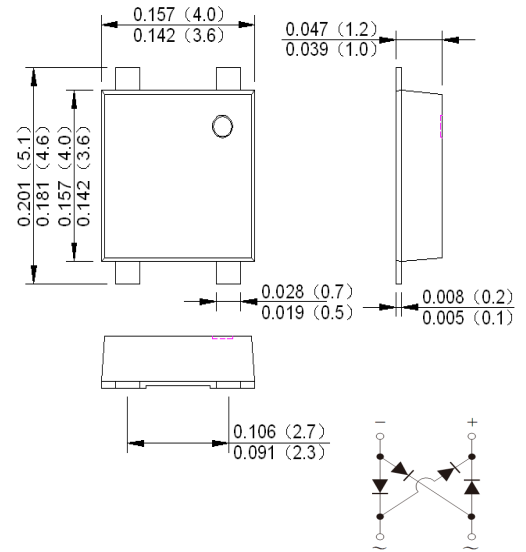


**Features**

- 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 260°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** : 0.0017 ounce, 0.05 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        | UM05B       | UM1B | UM2B | UM4B | UM6B | UM8B | UM10B | 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 $T_L=100^\circ C$ On glass-epoxy P.C.B (Note 1) | $I_{(AV)}$     | 0.3         |      |      |      |      |      |       | A            |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load           | $I_{FSM}$      | 20.0        |      |      |      |      |      |       | A            |
| Rating for fusing ( $t=8.3ms, T_a=25^\circ C$ )  | $I_t^2$        | 1.60        |      |      |      |      |      |       | $A^2s$       |
| Maximum instantaneous forward voltage at 0.3A  | $V_F$          | 1.0         |      |      |      |      |      |       | V            |
| Maximum DC reverse current $T_A=25^\circ C$ at rated DC blocking voltage $T_A=125^\circ C$   | $I_R$          | 2.0<br>200  |      |      |      |      |      |       | $\mu A$      |
| Typical junction capacitance (Note 2)  | $C_J$          | 11.0        |      |      |      |      |      |       | pF           |
| Typical thermal resistance   | $R_{qJA}$      | 81.0        |      |      |      |      |      |       | $^\circ C/W$ |
| Operating junction and storage temperature range   | $T_J, T_{STG}$ | -55 to +150 |      |      |      |      |      |       | $^\circ C$   |

**Note:** 1. Mounted on glass epoxy PC board with 1.3\*1.3mm solder pad  
 2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

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**Ratings And Characteristic Curves**

FIG. 1- DERATING CURVE OUTPUT RECTIFIED CURRENT

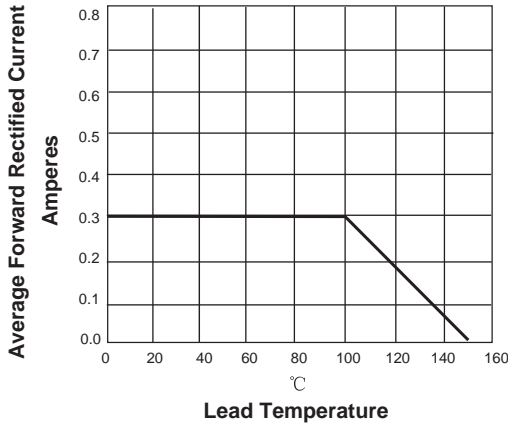


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

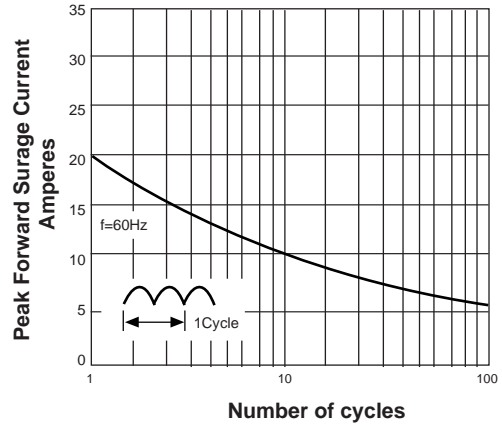


FIG. 3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

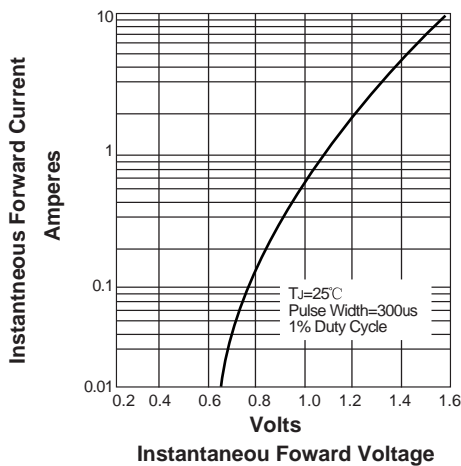
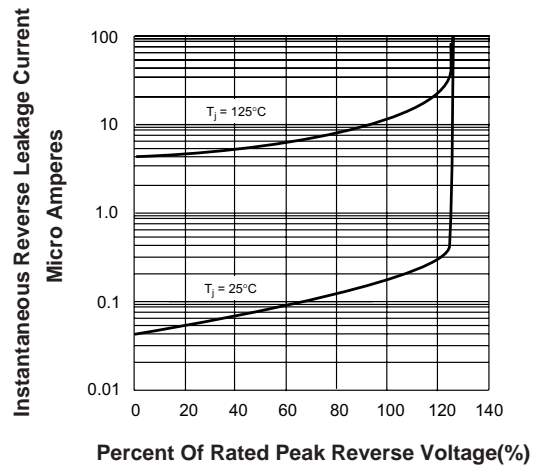
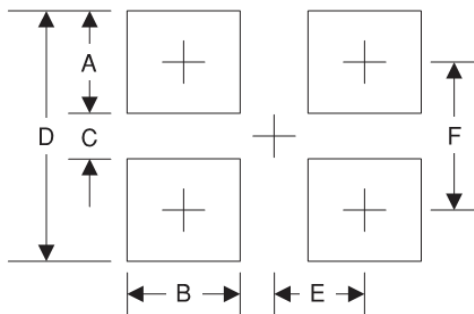


FIG. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS



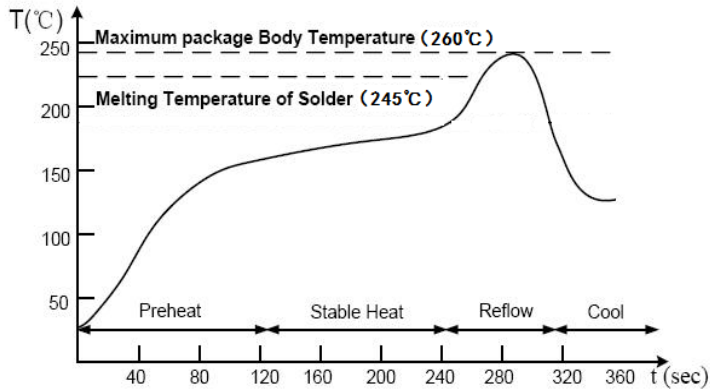
**Suggested Pad Layout**



| Symbol | Unit (mm) | Unit (inch) |
|--------|-----------|-------------|
| A      | 1.4       | 0.055       |
| B      | 1.0       | 0.039       |
| C      | 3.20      | 0.125       |
| D      | 6.00      | 0.236       |
| E      | 1.25      | 0.049       |
| F      | 4.30      | 0.169       |

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**Suggested Soldering Temperature Profile**

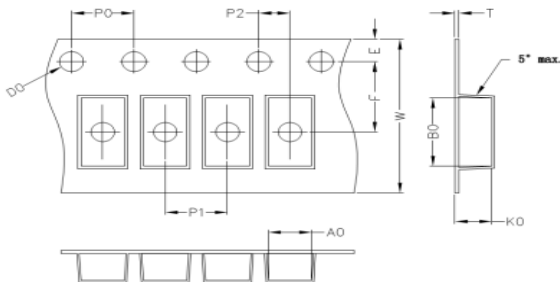


**Note**

- ◆ Recommended reflow methods: IR, vapor phase oven, hot air oven, wave solder.
- ◆ The device can be exposed to a maximum temperature of 260°C for 10 seconds.
- ◆ Devices can be cleaned using standard industry methods and solvents.
- ◆ If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

**Package Information**

**Carrier Dimension(mm)**



|           |           |           |           |          |                  |
|-----------|-----------|-----------|-----------|----------|------------------|
| <b>A0</b> | <b>B0</b> | <b>K0</b> | <b>D0</b> | <b>E</b> | <b>F</b>         |
| 4.25      | 5.25      | 1.35      | 1.55      | 1.75     | 5.50             |
| <b>P0</b> | <b>P1</b> | <b>P2</b> | <b>T</b>  | <b>W</b> | <b>Tolerance</b> |
| 4.0       | 8.0       | 2.0       | 0.25      | 12       | 0.1              |

**Package Specifications**

| Package | Reel Size | Reel DIA. (mm) | Q'TY/Reel (Kpcs) | Box Size (mm) | QTY/Box (Kpcs) | Carton Size (mm) | Q'TY/Carton (Kpcs) |
|---------|-----------|----------------|------------------|---------------|----------------|------------------|--------------------|
| UMB     | 11'       | 278            | 5                | 280           | 10             | 355*310*310      | 80                 |