



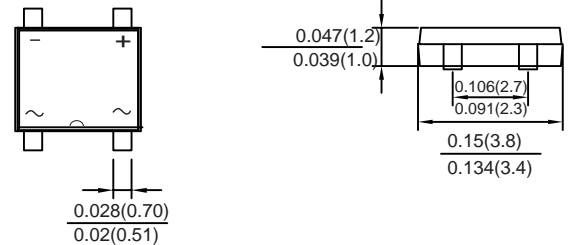
# UM1B THRU UM10B

Voltage Range - 100 to 1000 Volts Current - 1.0 Ampere

## SINGLE PHASE GLASS PASSIVATED BRIDGE RECTIFIER

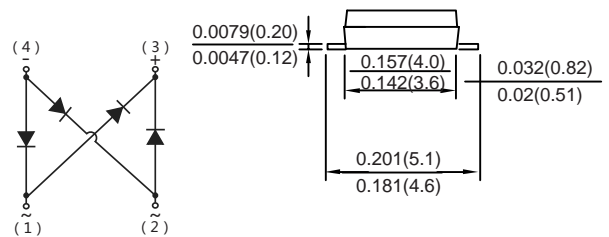
### Features

- ◆ Glass passivated die construction Low
- ◆ forward voltage drop
- ◆ High current capability
- ◆ High surge current capability
- Designed for surface mount application
- Plastic material-UL flammability 94V-0



### Mechanical Data

Case: JEDEC UMB molded plastic body  
 Terminals: Solderable per MIL-STD-750, Method 2026A  
 Polarity: Polarity symbol marking on body  
 Mounting Position: Any  
 Weight: 0.0016 ounce, 0.45 grams



Dimensions in inches and (millimeters)

### 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         | MDD UM1B   | MDD UM2B | MDD UM4B | MDD UM6B | MDD UM8B | MDD UM10B | Units              |
|---|-----------------|------------|----------|----------|----------|----------|-----------|--------------------|
| Marking Code  |                 |            |          |          |          |          |           |                    |
| Maximum Repetitive Peak Reverse Voltage   | $V_{RRM}$       | 100        | 200      | 400      | 600      | 800      | 1000      | V                  |
| Maximum RMS voltage   | $V_{RMS}$       | 70         | 140      | 280      | 420      | 560      | 700       | V                  |
| Maximum DC Blocking Voltage   | $V_{DC}$        | 100        | 200      | 400      | 600      | 800      | 1000      | V                  |
| Average Rectified Output Current at $T_c = 115^\circ\text{C}$   | $I_o$           | 1          |          |          |          |          |           | A                  |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)                 | $I_{FSM}$       | 35         |          |          |          |          |           | A                  |
| Maximum Forward Voltage at 1.0A   | $V_F$           | 1.1        |          |          |          |          |           | V                  |
| Maximum DC Reverse Current @ $T_a = 25^\circ\text{C}$<br>at Rated DC Blocking Voltage @ $T_a = 125^\circ\text{C}$ | $I_R$           | 5<br>40    |          |          |          |          |           | $\mu\text{A}$      |
| Typical Junction Capacitance ( Note3 )  | $C_j$           | 13         |          |          |          |          |           | pF                 |
| Typical Thermal Resistance  | $R_{\theta JA}$ | 85         |          |          |          |          |           | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range   | $T_j, T_{stg}$  | -55 ~ +150 |          |          |          |          |           | $^\circ\text{C}$   |

NOTES: 1. On glass epoxy P.C.B. mounted on 0.05x0.05" (1.3x1.3mm) pads  
 2. On aluminum substrate P.C.B. with on area of 0.8"x0.8" (20x20mm) mounted on 0.05x0.05" (1.3x1.3mm) solder pad  
 3. Measured at 1.0MHz and applied reverse voltage of 4.0 volts.

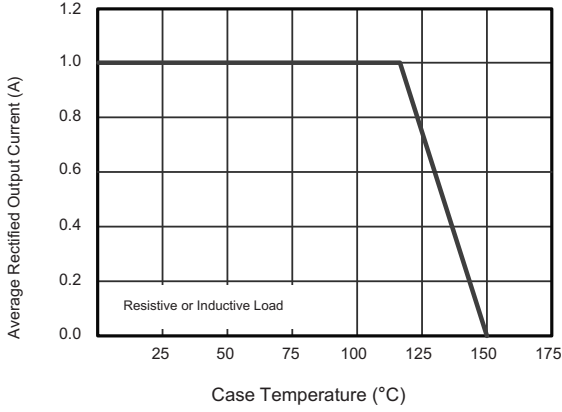


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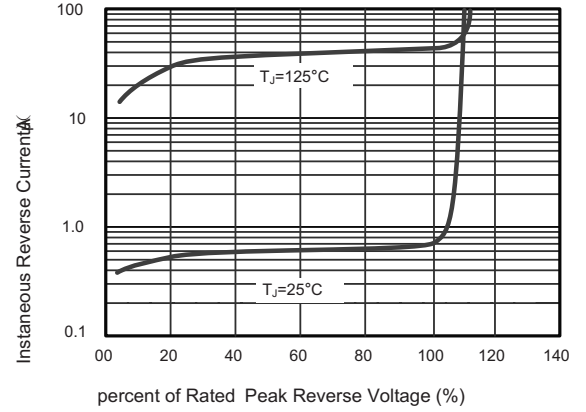
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## Typical Characteristics

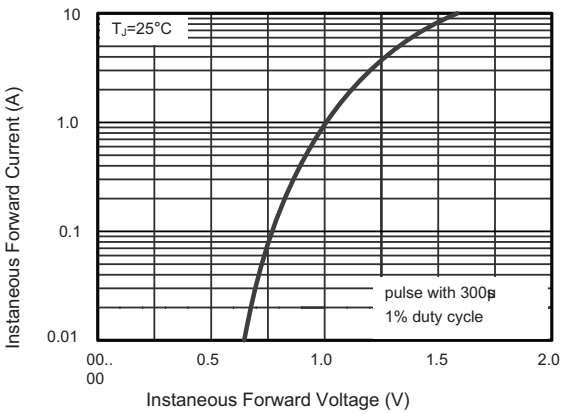
**Fig.1 Average Rectified Output Current Derating Curve**



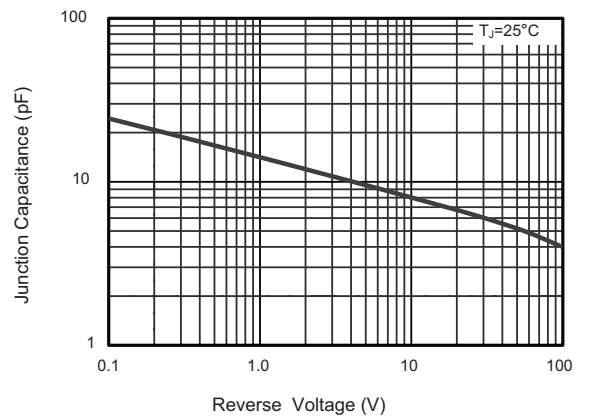
**Fig.2 Typical Reverse Characteristics**



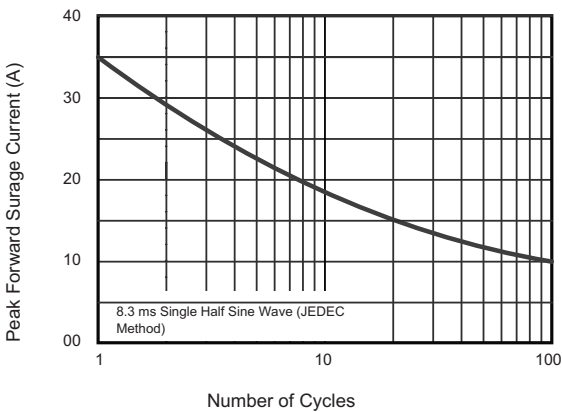
**Fig.3 Typical Instantaneous Forward Characteristics  $T_J = 25^\circ$**



**Fig.4 Typical Junction Capacitance**



**Fig.5 Maximum Non-Repetitive Peak Forward Surge Current**



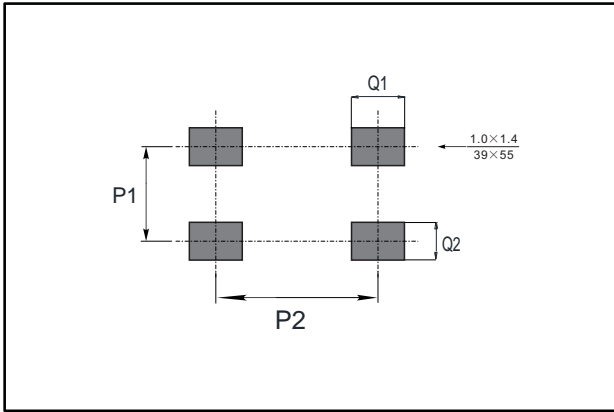
The curve above is for reference only.



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## Suggested Pad Layout



| Dim | Min |
|-----|-----|
| P1  | 2.5 |
| P2  | 4.3 |
| Q1  | 1.4 |
| Q2  | 1.0 |