



4A SURFACE MOUNT GLASS PASSIVATED BRIDGE RECTIFIER

FEATURES:

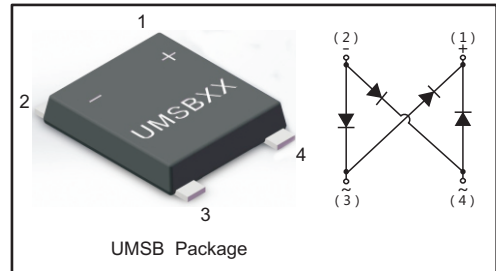
- Glass Passivated Chip Junction
- Reverse Voltage - 100 to 1000 V
- Forward Current - 4.0 A
- Fast reverse recovery time
- Designed for Surface Mount Application

MECHANICAL DATA

- Case: UMBS
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.234g / 0.00825oz

PINNING

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



Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20 %.

| Parameter | Symbols | UMSB40B | UMSB40D | UMSB40G | UMSB40J | UMSB40K | UMSB40M | Units |
|--|-----------------|------------|---------|---------|---------|---------|---------|--------------------|
| 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 $T_c = 115\text{ }^\circ\text{C}$ | I_O | 4.0 | | | | | | A |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) | I_{FSM} | 95 | | | | | | A |
| Maximum Forward Voltage at 4.0 A | V_F | 1.0 | | 1.4 | | 1.6 | | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage $T_a = 25\text{ }^\circ\text{C}$ $T_a = 125\text{ }^\circ\text{C}$ | I_R | 5.0 100 | | | | | | μA |
| Typical Junction Capacitance (Note1) | C_j | 50 | | | | | | pF |
| Typical Thermal Resistance (Note2) | $R_{\theta JA}$ | 40 | | | | | | $^\circ\text{C/W}$ |
| Maximum Reverse Recovery Time (Note3) | t_{rr} | 50 | | | 75 | | | ns |
| Operating and Storage Temperature Range | T_j, T_{stg} | -55 ~ +150 | | | | | | $^\circ\text{C}$ |

Note: 1. Measured at 1 MHz 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 $I_f = 0.5\text{ A}$, $I_R = 1\text{ A}$, $t_{rr} = 0.25\text{ A}$.

Fig.1 Average Rectified Output Current Derating Curve

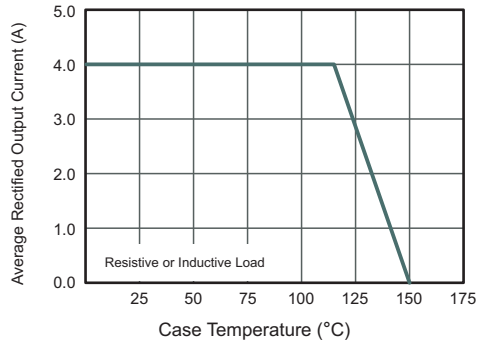


Fig.2 Typical Reverse Characteristics

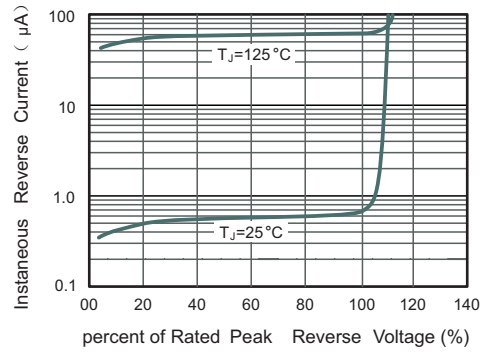


Fig.3 Typical Instantaneous Forward Characteristics

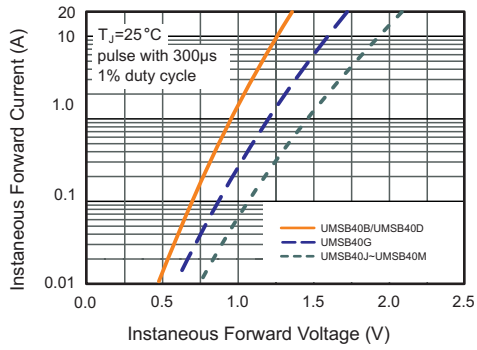


Fig.4 Typical Junction Capacitance

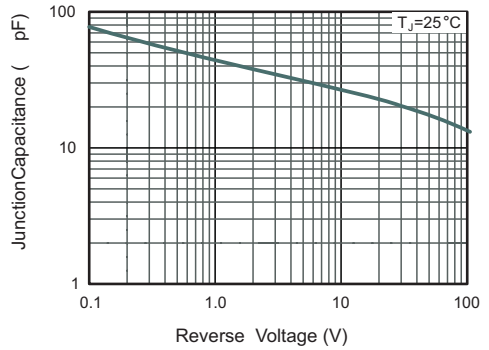
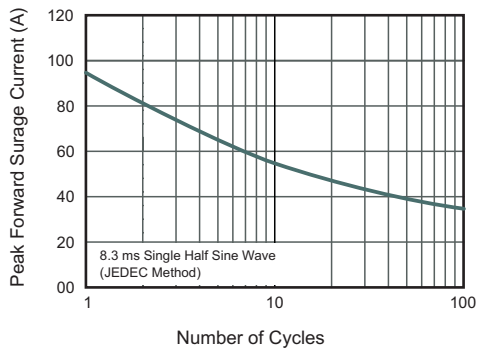


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

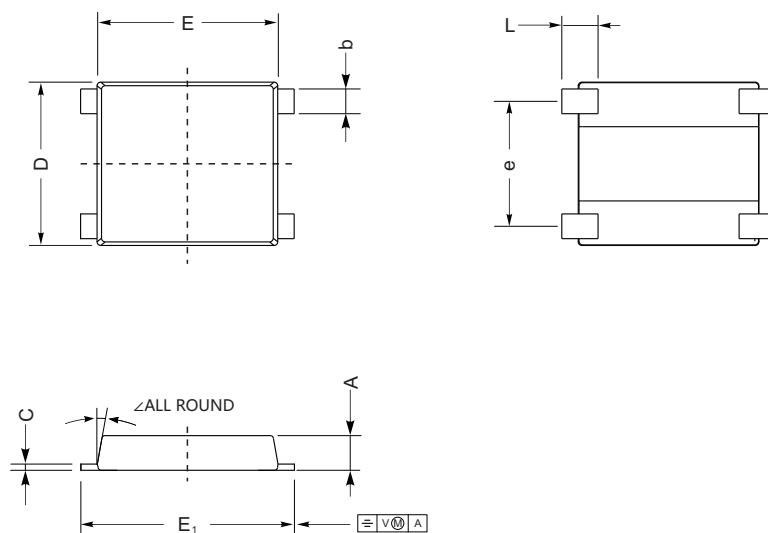




PACKAGE OUTLINE

Plastic surface mounted package; 4 leads

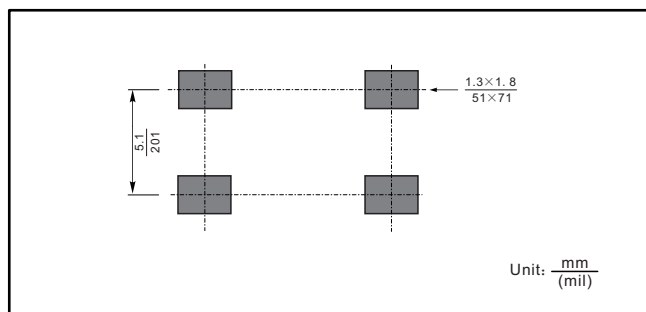
UMSB



M2 mechanical data

| UNIT | | A | C | D | E | E ₁ | L | e | b | ∠ |
|------|-----|-----|------|-----|-----|----------------|------|-----|------|-----|
| mm | max | 1.5 | 0.29 | 7.0 | 7.6 | 8.9 | 1.6 | 5.3 | 1.15 | 10° |
| | min | 1.3 | 0.17 | 6.2 | 7.1 | 8.4 | 1.0 | 4.9 | 0.95 | |
| mil | max | 59 | 12 | 276 | 299 | 350 | 55 | 209 | 45 | |
| | min | 51 | 7 | 244 | 280 | 331 | 31.5 | 193 | 37 | |

The recommended mounting pad size



Marking

| Type number | Marking code |
|-------------|--------------|
| UMSB40B | UMB40B |
| UMSB40D | UMB40D |
| UMSB40G | UMB40G |
| UMSB40J | UMB40J |
| UMSB40K | UMB40K |
| UMSB40M | UMB40M |