

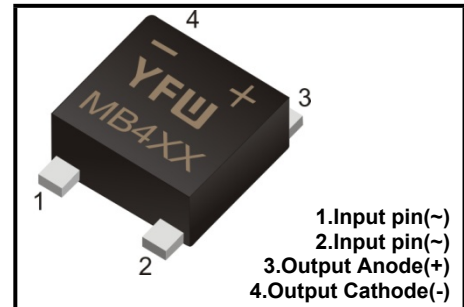
4A SURFACE MOUNT GLASS PASSIVATED BRIDGE

RECTIFIER Reverse Voltage - 100 to 1000 V

Forward Current – 4A

FEATURES

- ◆ High current capability
- ◆ Low forward voltage drop
- ◆ Glass Passivated Chip Junction
- ◆ Low power loss, high efficiency
- ◆ Lead free in comply with EU RoHS 2011/65/EU directives



UMSB

Marking Code

| | |
|--------|-------|
| MSB40B | MB40B |
| MSB40D | MB40D |
| MSB40G | MB40G |
| MSB40J | MB40J |
| MSB40K | MB40K |
| MSB40M | MB40M |

MECHANICAL DATA

- ◆ Case: UMSB
- ◆ Terminals: Solderable per MIL-STD-750, Method 2026
- ◆ Approx. Weight: 233.7mg / 0.00824oz

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 | MSB40B | MSB40D | MSB40G | MSB40J | MSB40K | MSB40M | 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 $T_c = 125\text{ }^\circ\text{C}$ | I_o | 4 | | | | | | A |
| Peak Forward Surge Current 8.3 ms Single Half Sine-Wave Superimposed on Rated Load(JEDEC method) | I_{FSM} | 95 | | | | | | A |
| Forward Voltage per element at 4.0A | V_F | 1.1 | | | | | | V |
| Maximum DC Reverse Current @ $T_A=25\text{ }^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A=125\text{ }^\circ\text{C}$ | I_R | 5 100 | | | | | | μA |
| Typical Junction Capacitance (Note1) | C_j | 50 | | | | | | pF |
| Operating and Storage Temperature Range | T_j, T_{stg} | -55 ~ +150 | | | | | | $^\circ\text{C}$ |

(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" (3.81×3.81 cm) copper pad.

Fig.1 Average Rectified Output Current Derating Curve

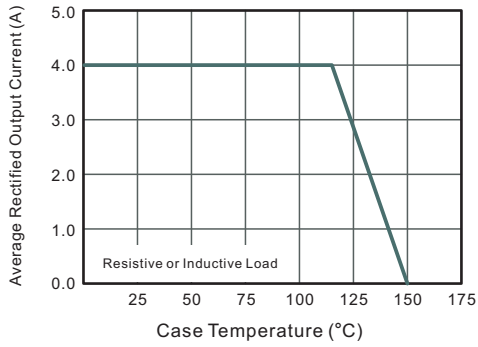


Fig.2 Typical Reverse Characteristics

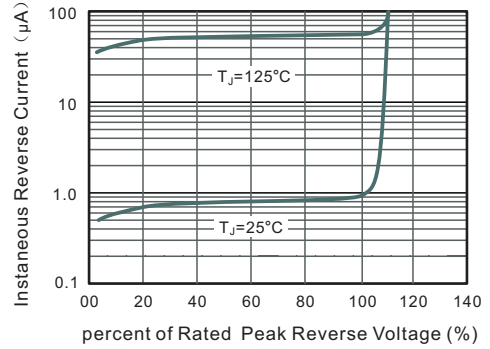


Fig.3 Typical Instantaneous Forward Characteristics

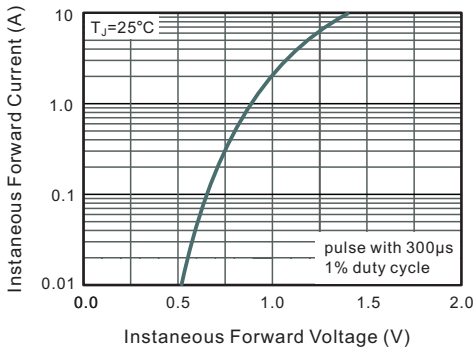


Fig.4 Typical Junction Capacitance

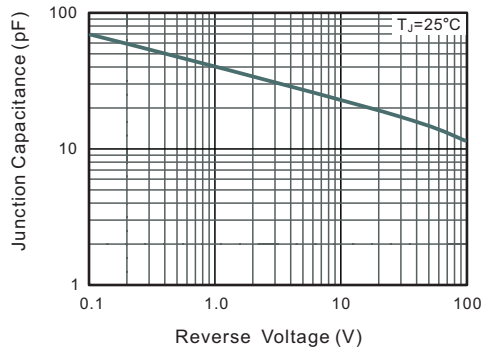
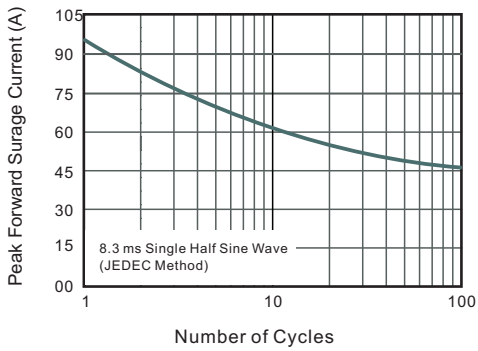


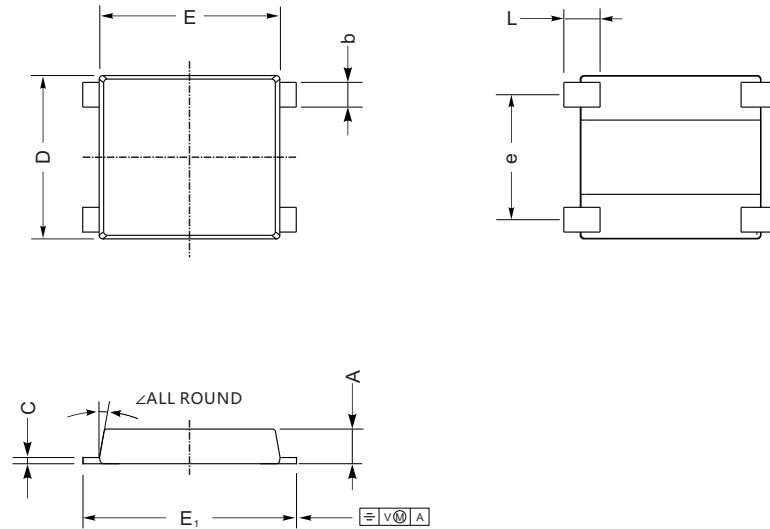
Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



Package Outline

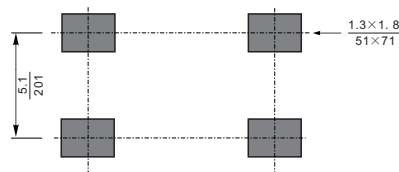
UMSB

Plastic surface mounted package; 4 leads



| 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



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

Summary of Packing Options

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