

# UMSB30A THRU UMSB30M

## 3.0 AMP SURFACE MOUNT BRIDGE RECTIFIERS

### FEATURES:

- Glass Passivated Chip Junction
- Reverse Voltage - 50 to 1000 V
- Forward Current - 3.0 A
- High Surge Current Capability
- Designed for Surface Mount Application

### MECHANICAL DATA

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

### Marking

| Marking code      |
|-------------------|
| UMB30A --- UMB30M |

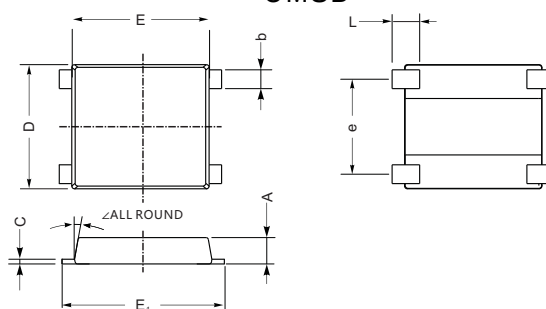
### VOLTAGE RANGE

50 to 1000 Volts

### CURRENT

3.0 Ampere

### UMSB



| UNIT |     | A   | C    | D   | E   | E <sub>1</sub> | 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   |     |

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25°C ambient temperature unless otherwise specified.  
Single phase half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

| TYPE NUMBER                                                                                           | UMSB30A    | UMSB30B | UMSB30D | UMSB30G | UMSB30J | UMSB30K | UMSB30M | UNIT |
|-------------------------------------------------------------------------------------------------------|------------|---------|---------|---------|---------|---------|---------|------|
| Maximum Recurrent Peak Reverse Voltage                                                                | 50         | 100     | 200     | 400     | 600     | 800     | 1000    | V    |
| Maximum RMS Voltage                                                                                   | 35         | 70      | 140     | 280     | 420     | 560     | 700     | V    |
| Maximum DC Blocking Voltage                                                                           | 50         | 100     | 200     | 400     | 600     | 800     | 1000    | V    |
| Maximum Average Forward Rectified Current<br>at Ta=25°C                                               | 3.0        |         |         |         |         |         |         | A    |
| Peak Forward Surge Current, 8.3 ms single half sine-wave<br>superimposed on rated load (JEDEC method) | 80         |         |         |         |         |         |         | A    |
| Maximum Forward Voltage Drop per Bridge Element at 3.0A .                                             | 1.0        |         |         | 1.4     | 1.7     |         |         | V    |
| Maximum DC Reverse Current<br>Ta=25°C                                                                 | 5.0        |         |         |         |         |         |         | μA   |
| at Rated DC Blocking Voltage<br>Ta=100°C                                                              | 200        |         |         |         |         |         |         | μA   |
| Maximum Reverse Recovery Time (Note 1)                                                                | 50         |         |         |         | 75      |         |         | nS   |
| Typical Junction Capacitance (Note 2)                                                                 | 40         |         |         |         |         |         |         | pF   |
| Typical Thermal Resistance R JA (Note 3)                                                              | 40         |         |         |         |         |         |         | °C/W |
| Operating and Storage Temperature Range Tj, Tstg                                                      | -65 — +150 |         |         |         |         |         |         | °C   |

#### NOTES:

1. Reverse Recovery Time test condition: IF=0.5A, IR=1.0A, IRR=0.25A
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
3. Thermal Resistance from Junction to Ambient.

## RATING AND CHARACTERISTIC CURVES (UMSB30A THRU UMBS30M)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

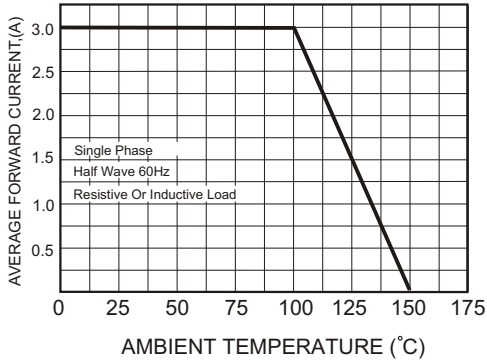


FIG.2-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

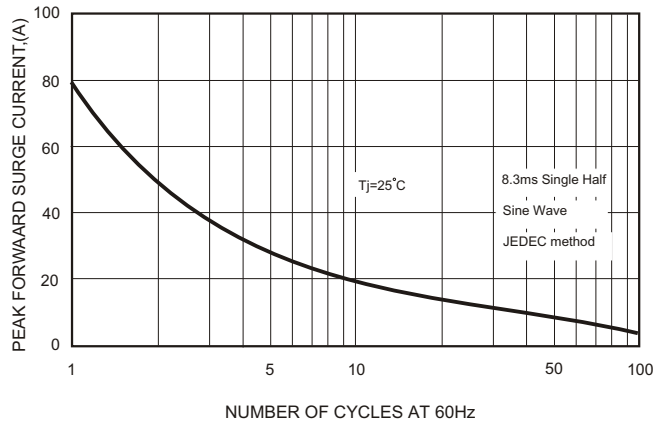


FIG.3-TYPICAL FORWARD CHARACTERISTICS

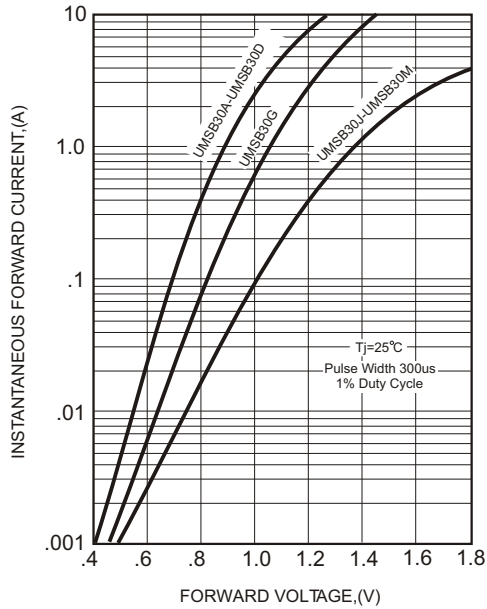


FIG.4-TYPICAL REVERSE CHARACTERISTICS

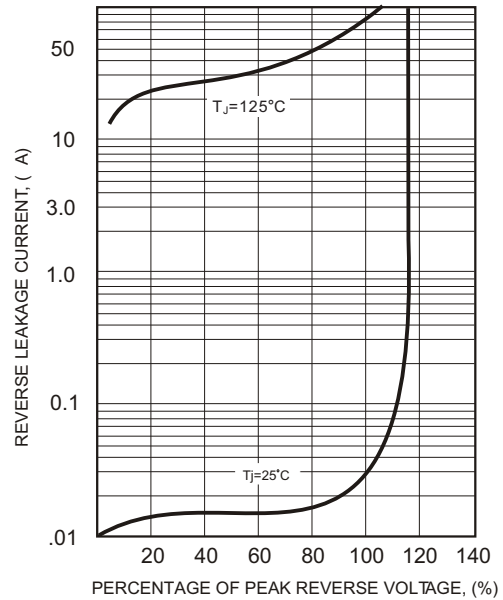


FIG.5-TYPICAL JUNCTION CAPACITANCE

