# Glass Passivated Surface Mount Bridge Rectifiers

## 1 General Description

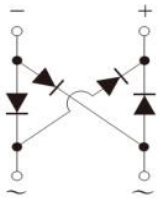
### 1.1 Features

- 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 guaranteed250℃/10 seconds at terminals

**REVERSE VOLTAGE**
50-1000V
**FORWARD CURRENT**
6Ampere

### 1.2 Typical Applications

- Suitable for AC-to-DC bridge full wave rectification for SMPS, LED lighting, adapter, battery charger, home appliances, office equipment, and telecommunication applications.



### 1.3 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

## 2 Maximum Ratings( TA=25℃ Unless otherwise specified)

| PARAMETER | SYMBOL | MSB601 | MSB602 | MSB603 | MSB604 | MSB605 | MSB606 | MSB607 | UNIT |
|---|---|---|---|---|---|---|---|---|---|
| Maximum Repetitive Peak Reverse Voltage | $V_{RRM}$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS Bridge Input 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 Output Current at $T_L$=100℃ | $I_{F(AV)}$ | 6.0 | | | | | | | A |
| Peak Forward Surge Current 8.3ms Single half Sine-Wave Superimposed On Rated Load (JEDEC Method) | $I_{FSM}$ | 175 | | | | | | | A |
| Rating for fusing ( t=8.3ms) | $I^2t$ | 127 | | | | | | | $A^2s$ |
| Operating Temperature Range | $T_J$ | -55 to +150 | | | | | | | ℃ |
| Storage Temperature Range | $T_{STG}$ | -55 to +150 | | | | | | | ℃ |
| Typical Thermal Resistance | $R_{\theta JA}$ | 55.0 | | | | | | | ℃/W |

Note:1. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

## 3 Electrical Characteristics(TA=25℃ Unless otherwise specified )

| PARAMETER | | SYMBOL | MSB601 | MSB602 | MSB603 | MSB604 | MSB605 | MSB606 | MSB607 | UNIT |
|---|---|---|---|---|---|---|---|---|---|---|
| Maximum instantaneous Forward Voltage at 6.0A | | $V_F$ | 1.10 | | | | | | | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | $T_A$=25℃ | $I_R$ | 5.0 | | | | | | | μA |
| | $T_A$=125℃ | | 500 | | | | | | | |
| Typical Junction Capacitance(Note1) | | $C_J$ | 45.0 | | | | | | | pF |

## 4 Characteristics Curves(TA=25℃ Unless otherwise specified)

FIG. 1- DERATING CURVE OUTPUT RECTIFIED CURRENT

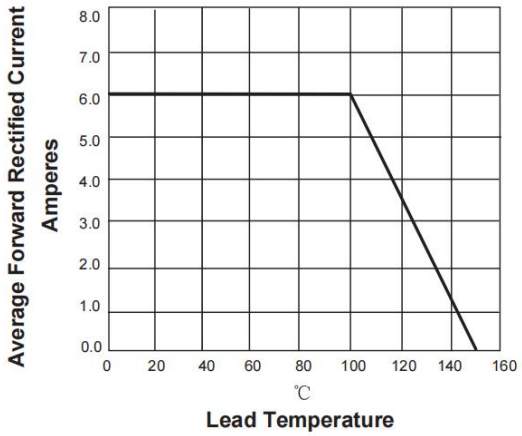



FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PERLEG

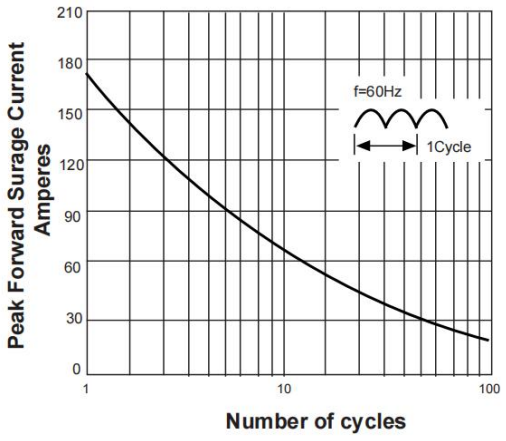



FIG. 3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

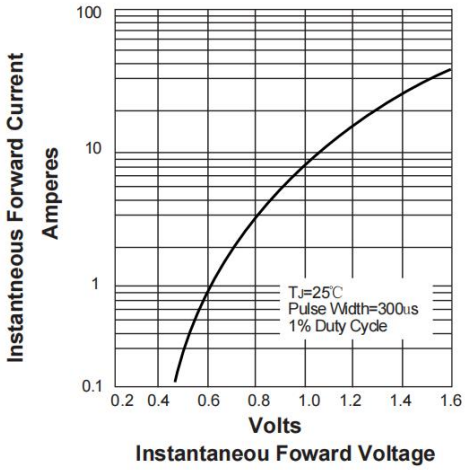
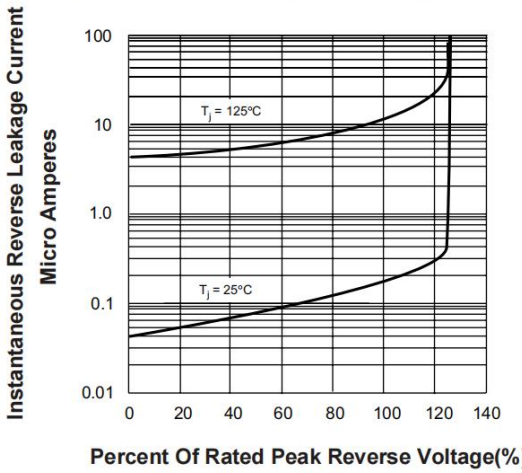
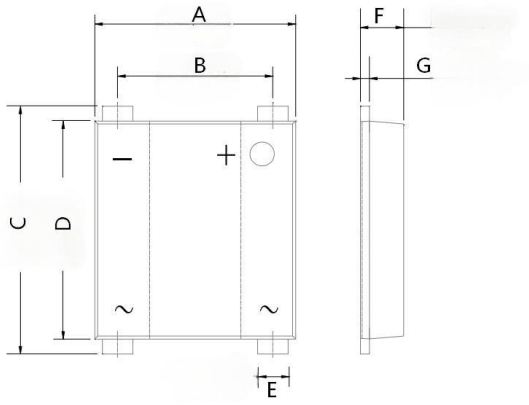



FIG. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS



## 5 Package Outline Dimensions

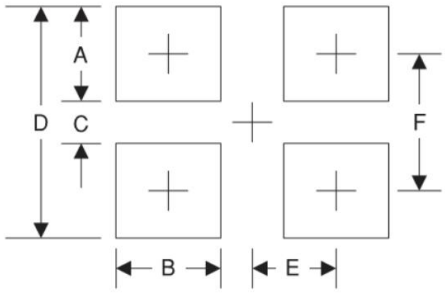



| Symbol | UNIT(mm) | |
|---|---|---|
| | Min | Max |
| A | 6.50 | 6.70 |
| B | 5.00 | 5.20 |
| C | 7.90 | 8.60 |
| D | 7.20 | 7.40 |
| E | 0.95 | 1.15 |
| F | 1.30 | 1.50 |
| G | 0.15 | 0.40 |

## 6 Ordering Information

| PACKAGE | UNIT WEIGHT (g) | REEL (pcs) | CARTON (pcs) |
|---|---|---|---|
| MSBL | Approximate 0.32 | 3000 | 36000 |

## 7 Suggested Pad Layout




| Symbol | UNIT(mm) | UNIT(inch) |
|---|---|---|
| A | 1.8 | 0.071 |
| B | 2.0 | 0.078 |
| C | 5.50 | 0.216 |
| D | 9.15 | 0.360 |
| E | 2.6 | 0.102 |
| F | 7.35 | 0.289 |

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