

## Bridge Rectifiers

### Features

- UL recognition, file #E313149
- Ideal for automated placement
- High surge current capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

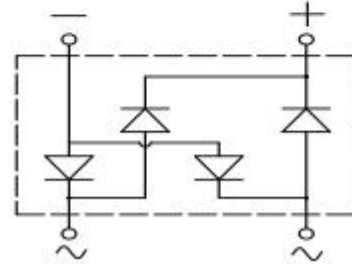


### Typical Applications

General purpose use in AC/DC bridge full wave rectification for power supply, lighting ballast, battery charger, home appliances, office equipment, and telecommunication applications.

### Mechanical Data

- **Package:** MBS  
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** As marked on body



### ■ Maximum Ratings ( $T_a=25^\circ\text{C}$ Unless otherwise specified)

| PARAMETER  |                          | SYMBOL           | UNIT             | MB1SA     | MB2SA | MB4SA | MB6SA | MB8SA | MB10SA |
|--|--------------------------|------------------|------------------|-----------|-------|-------|-------|-------|--------|
| Device marking code  |                          |                  |                  | MB1SA     | MB2SA | MB4SA | MB6SA | MB8SA | MB10SA |
| Repetitive peak reverse voltage  |                          | VRRM             | V                | 100       | 200   | 400   | 600   | 800   | 1000   |
| RMS Bridge input Voltage   |                          | VRMS             | V                | 70        | 140   | 280   | 420   | 560   | 700    |
| DC Reverse Voltage   |                          | VDC              | V                | 100       | 200   | 400   | 600   | 800   | 1000   |
| Average rectified output current @60Hz sine wave, R-load, $T_a=40^\circ\text{C}$           | On alumina substrate     | I <sub>o</sub>   | A                | 1.0       |       |       |       |       |        |
|  | On glass-epoxy substrate |                  |                  | 0.8       |       |       |       |       |        |
| Surge(non-repetitive)forward current @60Hz half sine wave, 1 cycle, $T_j=25^\circ\text{C}$ |                          | IFSM             | A                | 35        |       |       |       |       |        |
| Current squared time @1ms≤t≤8.3ms $T_j=25^\circ\text{C}$ , rating of per diode             |                          | I <sup>2</sup> t | A <sup>2</sup> s | 5.1       |       |       |       |       |        |
| Storage temperature  |                          | T <sub>stg</sub> | °C               | -55 ~+150 |       |       |       |       |        |
| Junction temperature   |                          | T <sub>j</sub>   | °C               | -55 ~+150 |       |       |       |       |        |

### ■ Electrical Characteristics ( $T_a=25^\circ\text{C}$ Unless otherwise specified)

| PARAMETER   | SYMBOL           | UNIT | TEST CONDITIONS                   | MB1SA | MB2SA | MB4SA | MB6SA | MB8SA | MB10SA |
|---|------------------|------|-----------------------------------|-------|-------|-------|-------|-------|--------|
| Maximum instantaneous forward voltage drop per diode              | V <sub>F</sub>   | V    | I <sub>FM</sub> =0.5A             | 1.00  |       |       |       |       |        |
| Maximum DC reverse current at rated DC blocking voltage per diode | I <sub>RRM</sub> | μA   | V <sub>RM</sub> =V <sub>RRM</sub> | 5     |       |       |       |       |        |

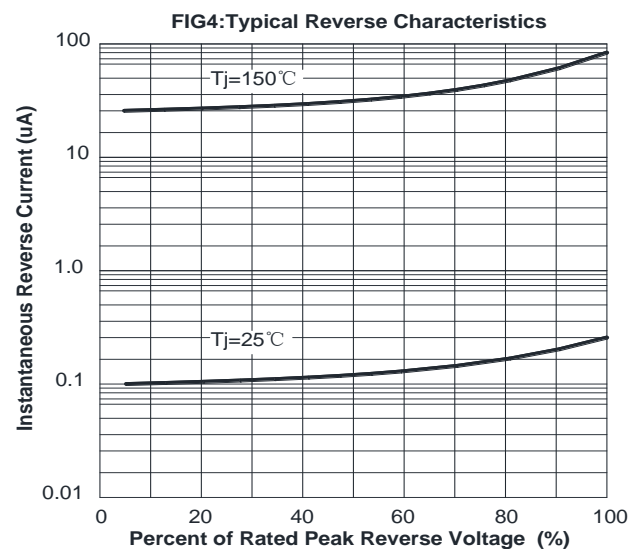
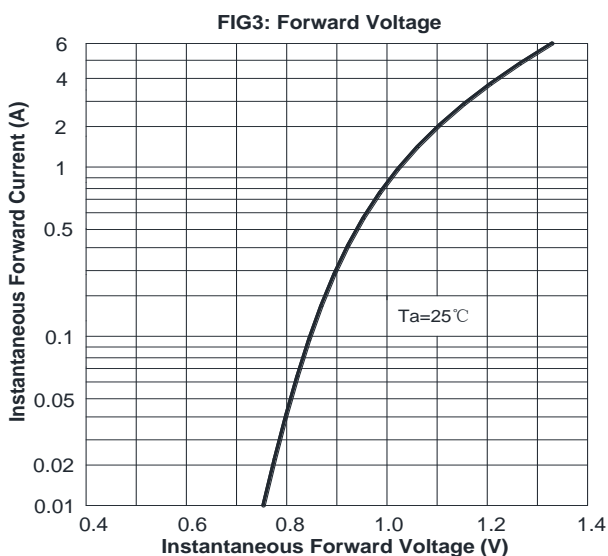
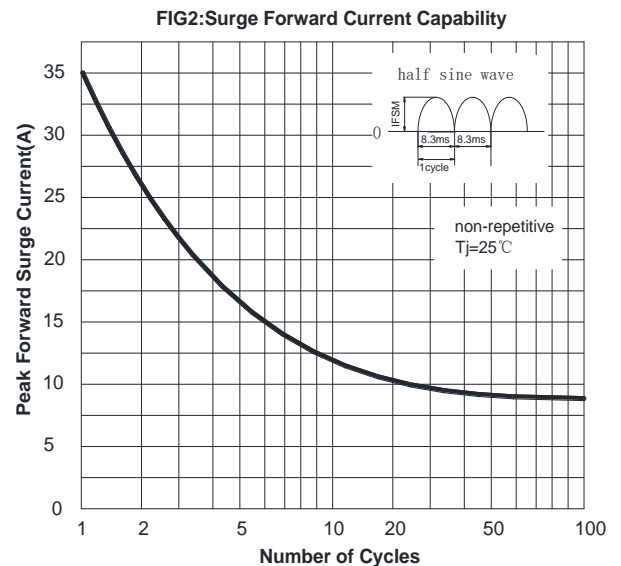
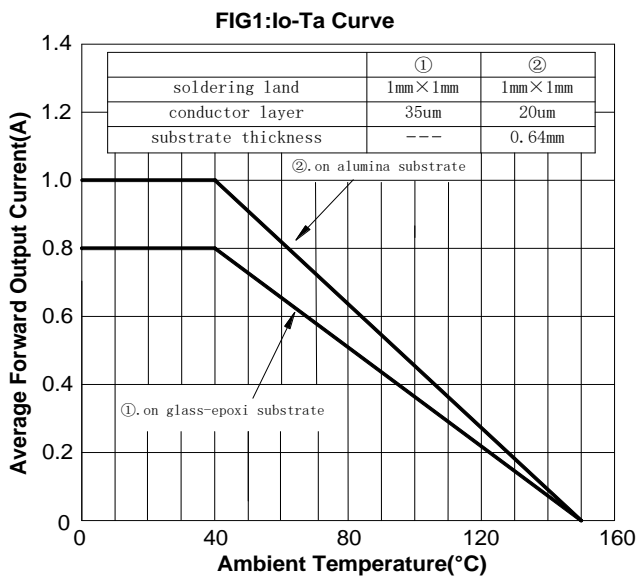
## ■ Thermal Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER          |  | SYMBOL         | UNIT | MB1SA | MB2SA | MB4SA | MB6SA | MB8SA | MB10SA |
|--------------------|--|----------------|------|-------|-------|-------|-------|-------|--------|
| Thermal Resistance | Between junction and ambient, On alumina substrate     | R $\theta$ J-A | °C/W | 76.0  |       |       |       |       |        |
|                    | Between junction and ambient, On glass-epoxi substrate | R $\theta$ J-A |      | 134.0 |       |       |       |       |        |
|                    | Between junction and lead                              | R $\theta$ J-L |      | 20.0  |       |       |       |       |        |

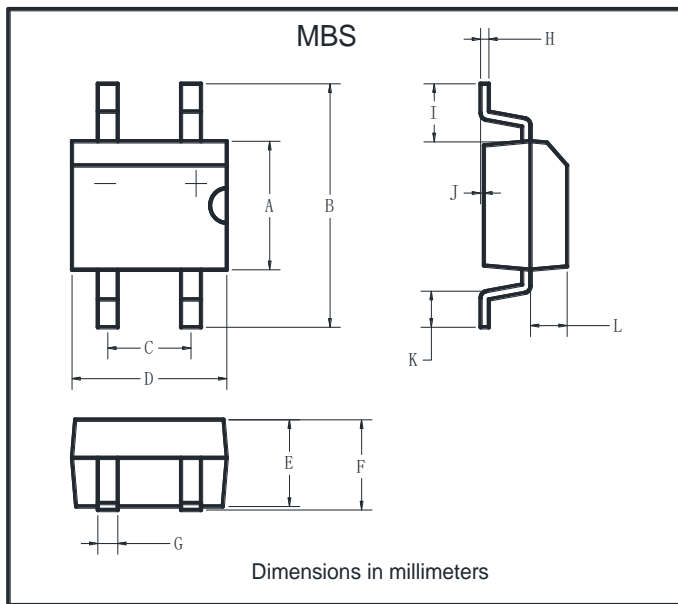
## ■ Ordering Information (Example)

| PREFERRED P/N | PACKING CODE | UNIT WEIGHT(g)   | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|--------------|------------------|----------------------|-------------------------|----------------------------|---------------|
| MB1SA-MB10SA  | F1           | Approximate 0.12 | 2500                 | 5000                    | 40000                      | 13' reel      |

## ■ Characteristics(Typical)

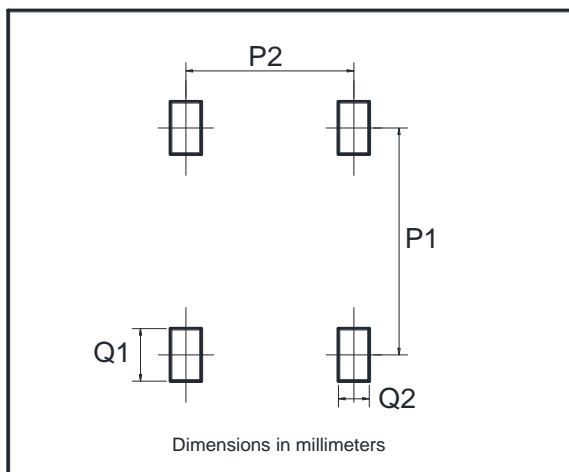


## ■ Outline Dimensions



| MBS |          |      |
|-----|----------|------|
| Dim | Min      | Max  |
| A   | 3.60     | 4.00 |
| B   | 7.00 Max |      |
| C   | 2.20     | 2.60 |
| D   | 4.50     | 4.90 |
| E   | 2.30     | 2.70 |
| F   | 3.00 Max |      |
| G   | 0.56     | 0.84 |
| H   | 0.15     | 0.35 |
| I   | 1.10     | 2.12 |
| J   | 0.20 Max |      |
| K   | 0.70     | 1.10 |
| L   | 0.95     | 1.53 |

## ■ Suggested pad layout



| Dim | Min  |
|-----|------|
| P1  | 6.00 |
| P2  | 2.40 |
| Q1  | 1.84 |
| Q2  | 1.20 |

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